

Manufacturers Record

Exponent of America



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Baltimore, Md.
OCTOBER 19, 1922

Railroad Presidents Discuss Railroad Betterments and Conditions.

Every shipper in the country realizes the inadequacy of existing transportation facilities. In some cases manufacturers are unable to secure transportation of raw materials out of which to manufacture the goods already sold. In other cases goods are piled up because they cannot be shipped. Orders for thousands and tens of thousands of carloads of stuff of various kinds are cancelled or held up because railroad facilities are unequal to the needs of the hour.

In part some of this is due to the long strike on the railroads and in the coal mines, but even those conditions do not explain the full situation. Business has grown more rapidly than railroad facilities. The country has expanded far beyond the railroads. Some of them have stood still; some have gone backward, both as to track and rolling stock; some have expended a good many millions of dollars on betterments and yet find that traffic along their line has increased more rapidly than their improvements.

"The problem of distribution," said Senator Gorman, of Maryland, more than thirty years ago, "is the great problem America must face." Distribution, he regarded as a far greater problem to be solved than production; and in that he was correct.

In 1906 and 1907 every railroad in the country was burdened beyond its ability with the enormous traffic of the hour. The roads were then annually ordering cars by the hundreds of thousands and locomotives by the thousands. In recent years they did not order enough cars or locomotives to replace those that had been worn out, and broadly speaking, the whole transportation power of the country has been going backward as compared with the increase in population and in business.

During 1921 there were for a while hundreds of thousands of idle cars, but they were idle because of the criminal conspiracy of financial influences which drastically deflated business, and not because of any inherent weakness in the resources of the country awaiting development.

The tide of business has turned. The demand for transportation far exceeds the ability of the roads to meet.

In this issue of the Manufacturers Record many railroad presidents tell of the rolling stock which they are ordering, and the improvements which they are planning. Some say that they are able to handle all of their traffic. Others say that they could handle their traffic if they could get back on their lines the cars that belong to them, but which are now held by other roads.

Having invited railroad presidents to tell what they are doing to provide increased facilities, we now invite shippers to tell us to what extent they are being hampered by lack of shipping facilities.

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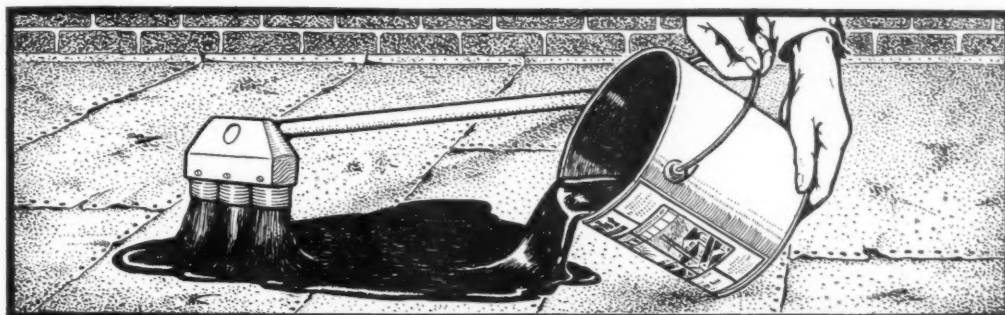
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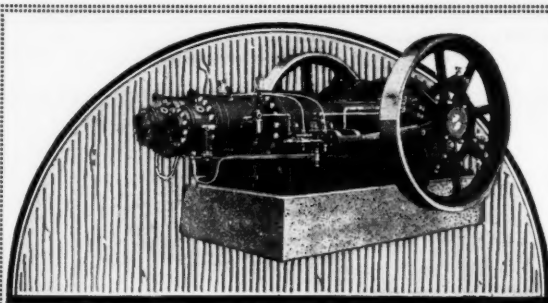
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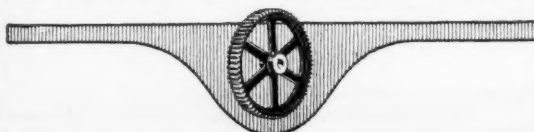
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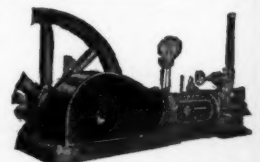
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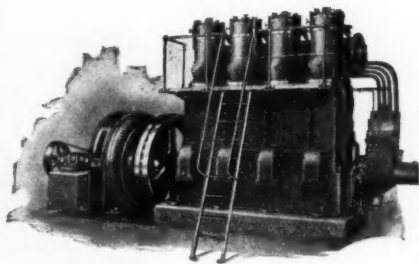
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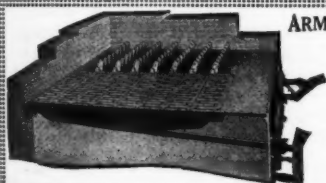


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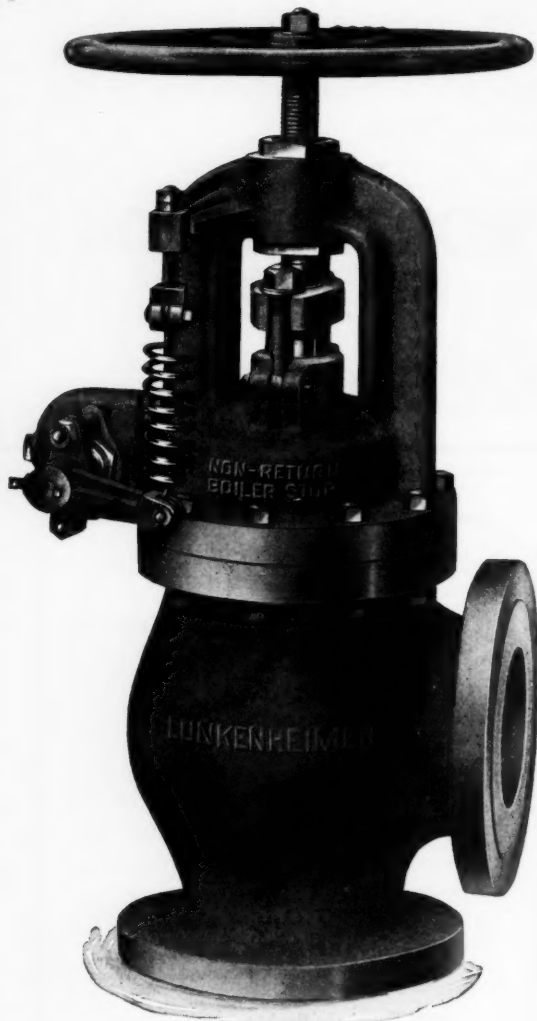
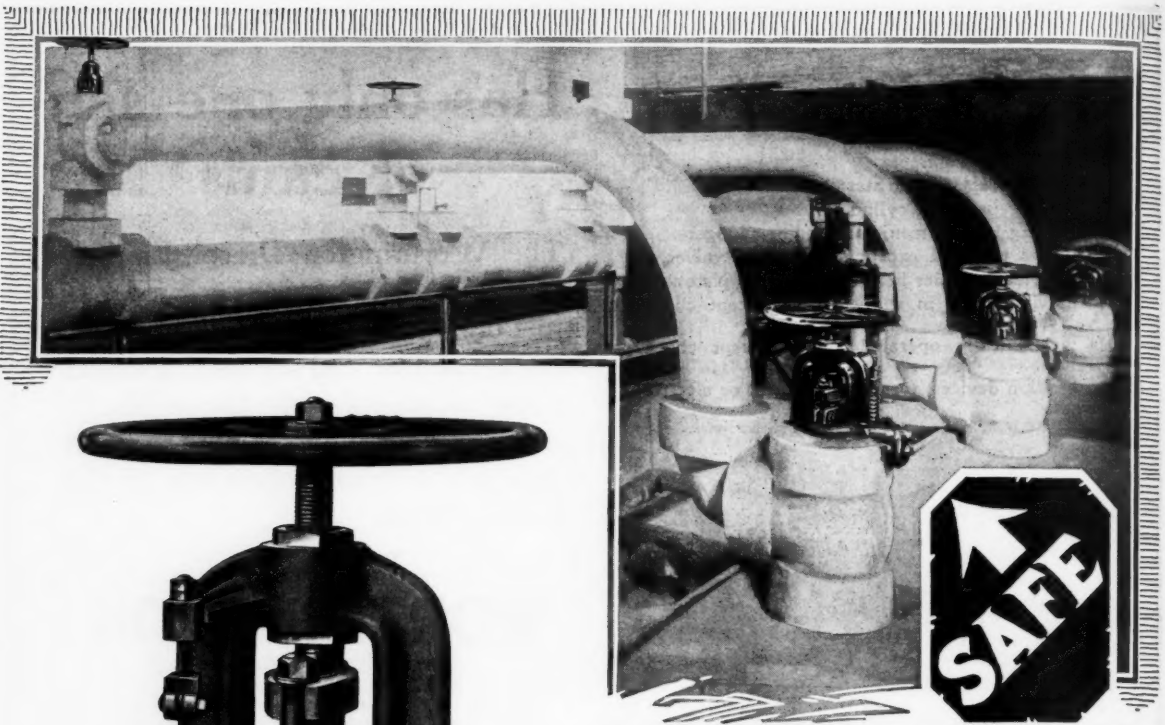


Fig. 700

"Essential for the safe operation of boilers connected in battery"

10-19-62

LUNKENHEIMER

Safety Non-Return Valves

are safety devices of established merit, providing positive protection to the operatives as well as the plant itself, against the dangers incident to an internal accident to one of the boilers of a battery.

A sudden drop in pressure within the boiler will cause the Lunkenheimer Non-Return Safety Boiler Stop Valve to close instantly and it will not reopen until the pressure within the boiler is raised to that in the header as these valves cannot be opened by hand. They likewise safeguard the lives of workmen who enter a dead boiler, should the regular stop valve fail or be opened through carelessness.

Lunkenheimer construction provides extreme factors of safety,—vital to the severe service these valves perform; minute adjustment to meet individual operating conditions and durability far beyond the average.

Iron Body Bronze Mounted and Cast Steel Monel Mounted for all pressure and temperature conditions.

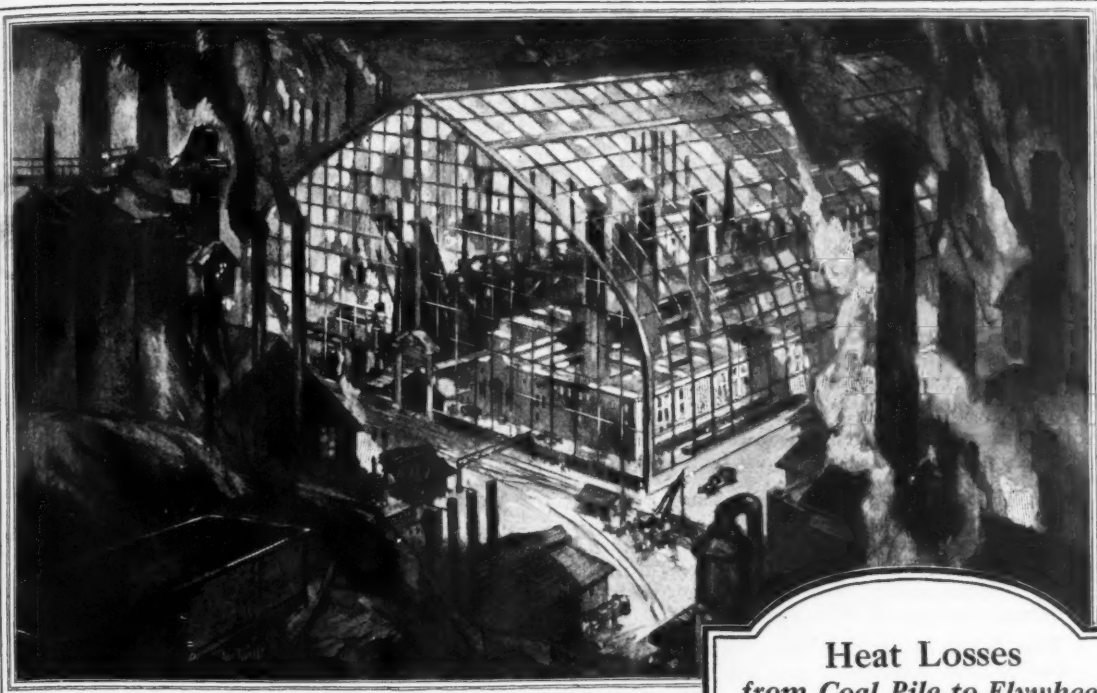
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is it hothouse or hardy?

A SHORT time ago abnormal demand was the industrial hothouse in which most any plant could thrive.

Margins were so broad and demand so active that factory and plant wastes became incidental to the more important urge for production.

But today—there is no hothouse of easy markets. To survive, every plant must be hardy, and every hardy plant can survive.

Cut costs now in 1922

First of all, wastes must be eliminated. This is no time to have bare or poorly covered hot surfaces and pipes wasting fuel, when each square foot of such surface wastes

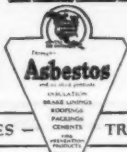
from 500 to 1,000 lbs. of coal per year.

Again—even a small plant, through leaky furnace and baffles, wastes tons of fuel that could be saved by a few dollars spent on corrective heat treatment.

Even such a detail as packing can by intelligent selection be made to serve as a saver of power, of wear and tear, and to materially reduce maintenance costs on engines, compressors, and pumps.

Read the notes in the panel at the right. Think of them as a basis for a meeting with a Johns-Manville man, along with your engineer. You owe it to yourself to know what you can save and where. Let us help you find out.

JOHNS-MANVILLE Asbestos



PIPE COVERINGS — PACKINGS — CEMENTS — POWER SPECIALTIES — TRAPS

Heat Losses from Coal Pile to Flywheel

The area of each of these squares represents what is left of the energy in a ton of coal at each step in power production after the unavoidable heat losses have been deducted at each stage.

The shaded portion of each square represents losses that are preventable at each step, and hence is clear saving when salvaged.



Available heat at furnace.



Heat available for conversion into steam.



Available heat for delivery to prime mover.



A Johns-Manville insulation in sheet and cement form reduces radiation from furnace and boiler.

Johns-Manville Refractory Cements, which resist high temperatures and expansion and contraction, provide for tight and durable fire brick settings.

Aertite Boiler Wall Coating applied to outside of brick walls of boiler prevents the infiltration of air into the fire box and combustion chamber.

B Moulded or poured Monolithic Baffle Walls prevent short circuiting of gases, and curtail heat losses up the stack.

C Johns-Manville gaskets and rod packings that pack without leakage between flanges or around rods eliminate all steam and water leakage.

The proper discharge of condensation conserves an enormous quantity of live steam. This is the job of the Johns-Manville Steam Trap.

Johns-Manville Sectional Pipe Insulation and other insulating materials of proper efficiency minimize radiation from conveying lines.

D Insulating lagging reduces radiation from cylinders, etc. Sea Ring Packing—automatic in action—saves a large percentage of power usually expended in overcoming friction between rod packing and rod or plunger.

For details on all Johns-Manville Power Plant materials, send to Johns-Manville, Inc., Madison Ave. at 41st Street, New York City.

EDGE MOOR Water Tube BOILERS

THE protracted coal strike of the past months emphasizes the ever-present need for fuel economy. The importance of obtaining the utmost return from every fuel dollar is no less in times of industrial peace.

Fuel economy begins and centers in the boiler room. The boilers themselves are the most important factor in any program of fuel saving.

Edge Moor Water Tube Boilers are built for the express purpose of utilizing every possible B. T. U. in the fuel burned under them. The unrestricted connection between header and drum that is a feature of Edge Moor Boilers gives them exceptional capacity for quick steaming. Fluctuating loads and high overloads can be carried without damage or loss of efficiency.

The Edge Moor catalogue explains the important features of this boiler that contribute to fuel economy. Your request will bring a copy promptly.



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Established 1868

EDGE MOOR, DELAWARE

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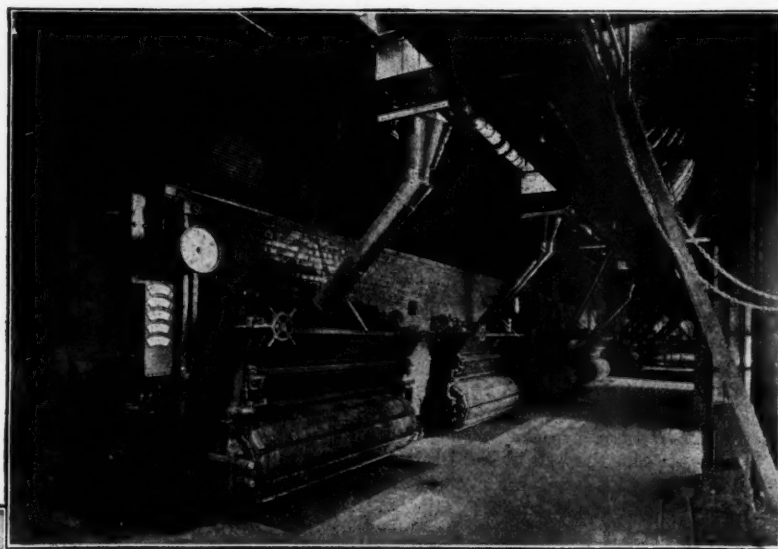
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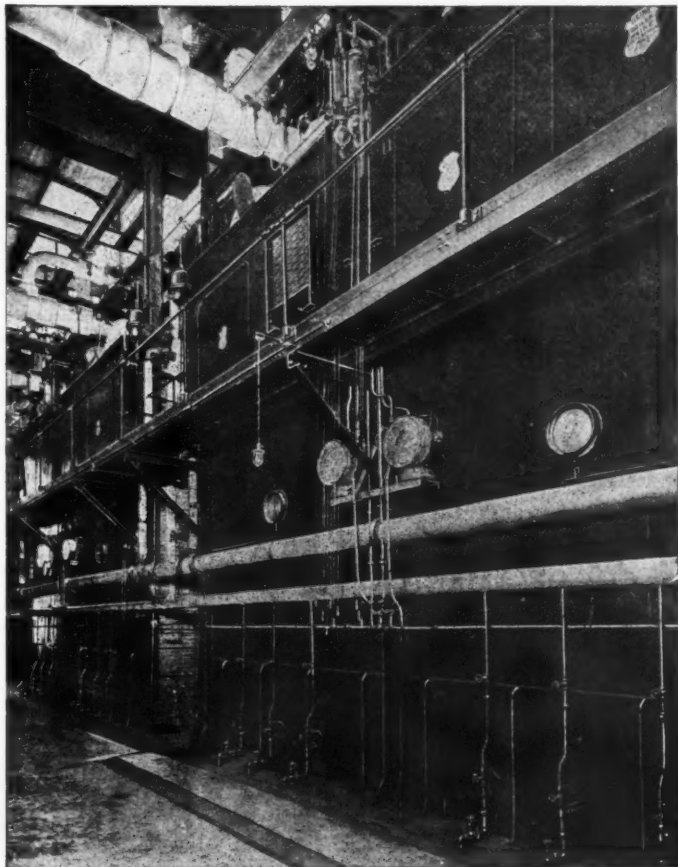


Twelve 556 H. P. Edge Moor Boilers with chain grate stokers in the plant of the A. E. Staley Mfg. Co., makers of starch.

Below: General view of the Staley Company's plant at Decatur, Ill.



FOR INCREASED FUEL ECONOMY



Boiler Plant of the
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One Fireman Replaces Nine

WHEN these four 435-b. hp. oil-fired HEINE Boilers replaced six 250-b. hp. water-tube boilers the boiler room force was reduced from nine firemen to one. Of course, a part of this reduction in labor was due to the introduction of oil firing, but a part of it was due also to the extraordinary facility with which the HEINE Boilers are kept in perfect operating condition.

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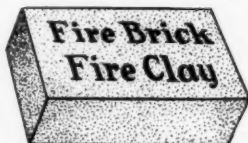
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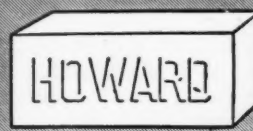
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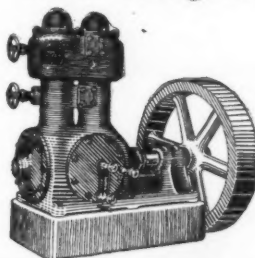
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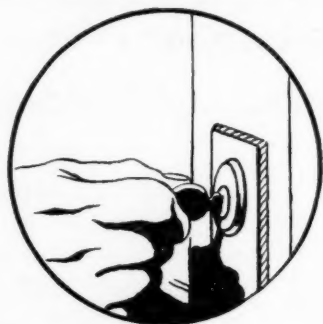
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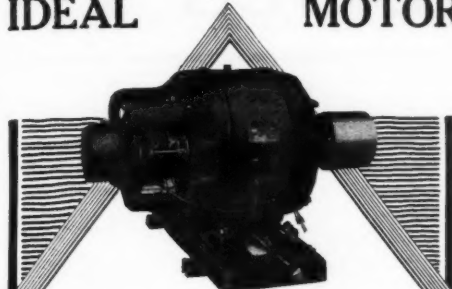
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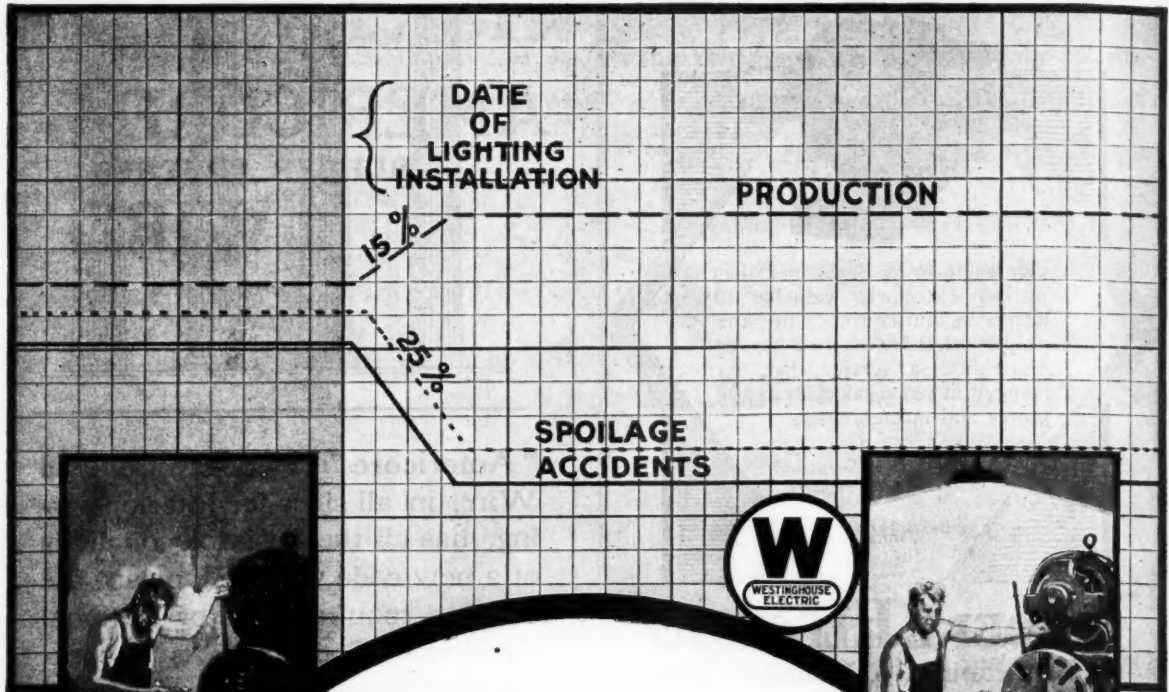
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It is impossible in an advertisement, to touch upon all the benefits that follow the installation of scientific lighting. All that we can do here is to call attention to the three most important results that modern lighting methods have produced. The figures used are averages from literally hundreds of installations, and are, therefore, not only conservative, but reliable.

Manufacturers have invested in money

and effort many times the amounts necessary to insure the rate of *production increase* that better lighting will give. They have spent, and are spending, thousands annually to *reduce spoilage* and *minimize rejects*. Every plant in this country should be, and is, vitally and financially interested in the *reduction of accidents*. *Scientific methods of lighting offer real gains to every manufacturer under each of these three headings.*

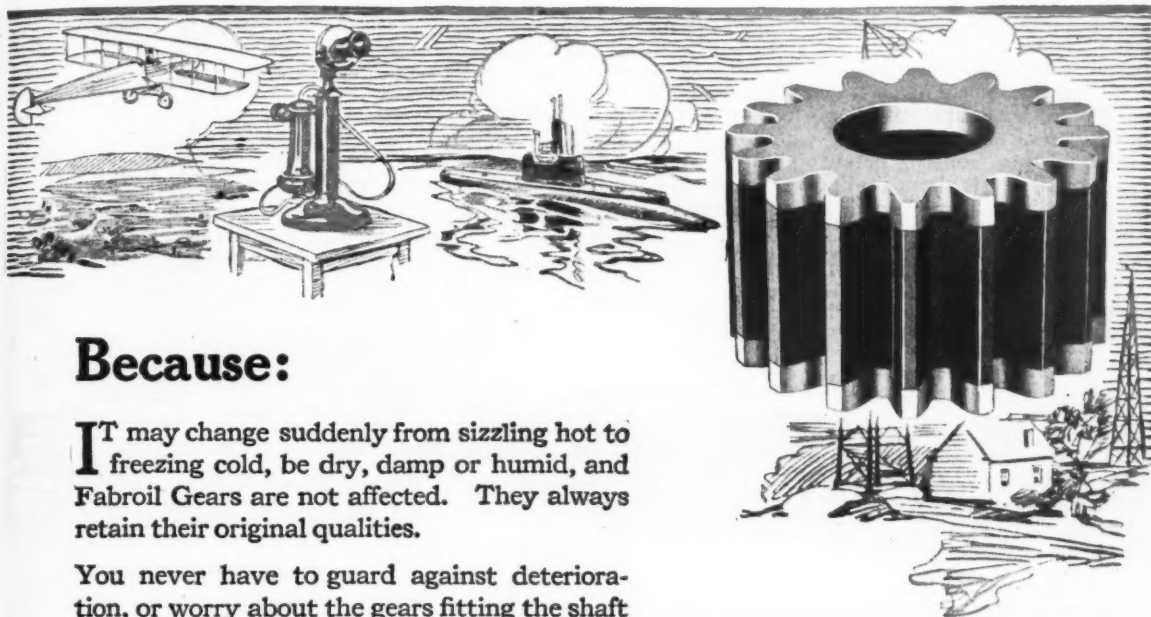
For the sake of your workers, and for the good of your business, get into touch with the nearest Westinghouse office, where the Illuminating Bureau will gladly give you the established facts, as well as an accurate estimate of what better lighting would do for your own plant.

WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY
Offices in all Principal Cities Representatives Everywhere

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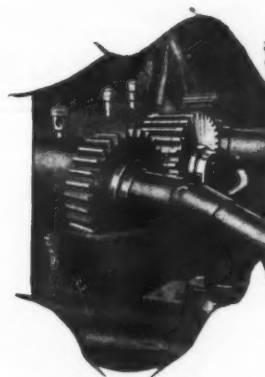
IT may change suddenly from sizzling hot to freezing cold, be dry, damp or humid, and Fabroil Gears are not affected. They always retain their original qualities.

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Thus they qualify for service in diversified industries. Sizes range from 1 in., diameter, upward. You can get standard blanks from stock.



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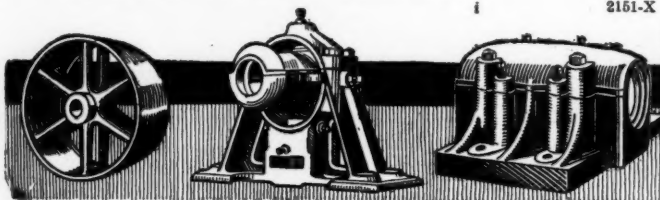
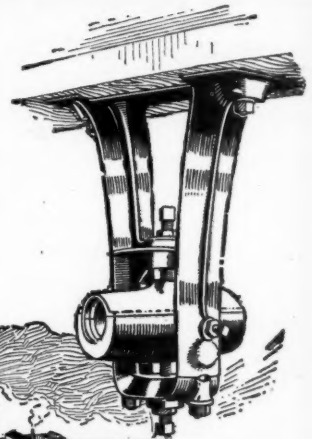
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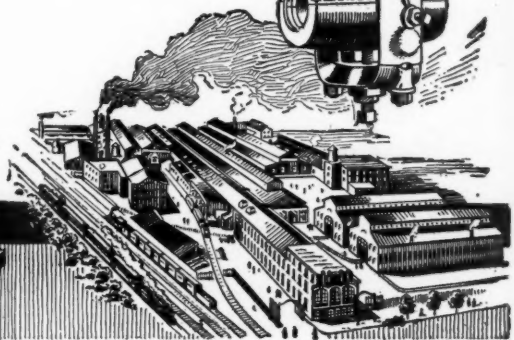
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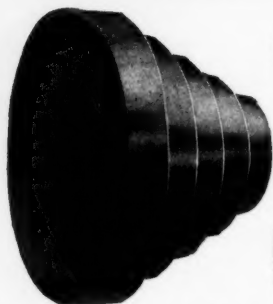


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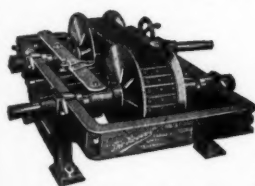
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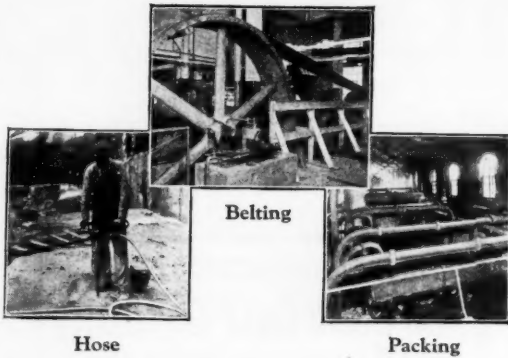


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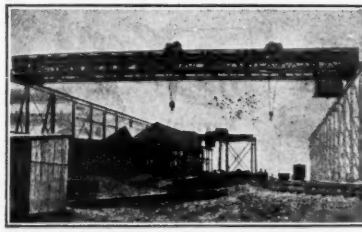
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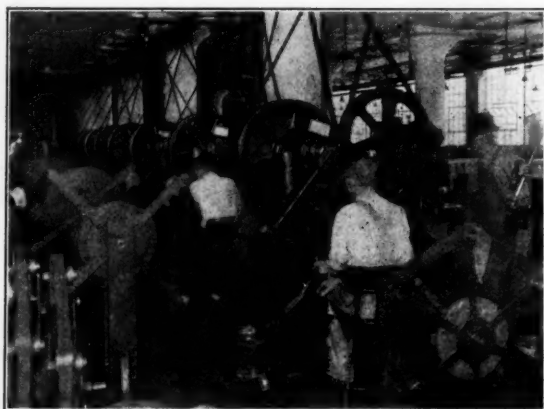
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9231-3

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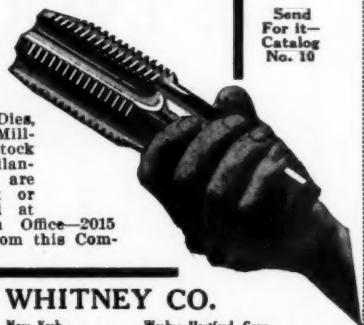
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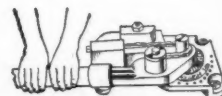
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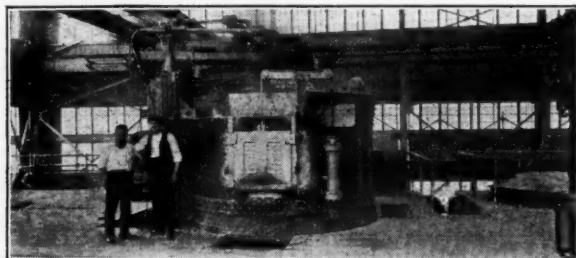
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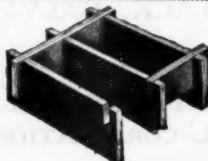
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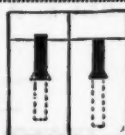
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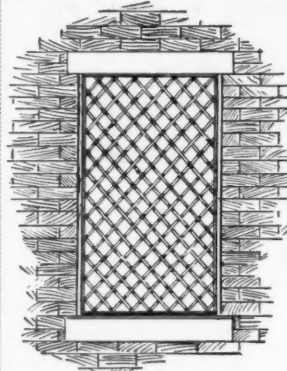
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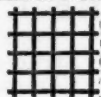
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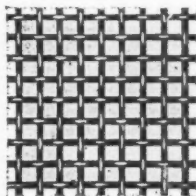
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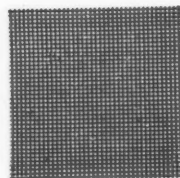
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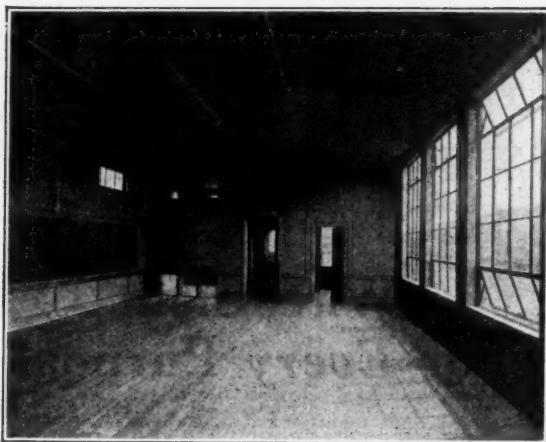
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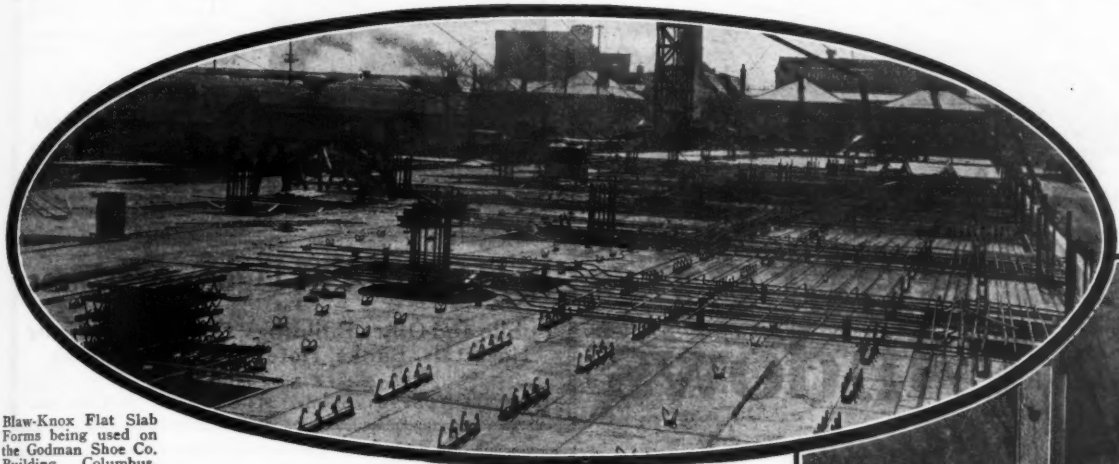
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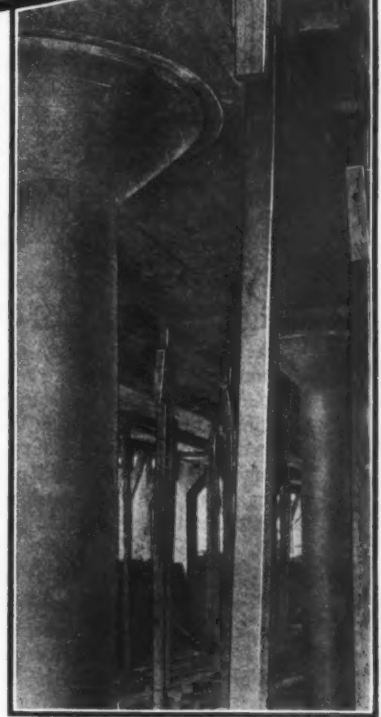
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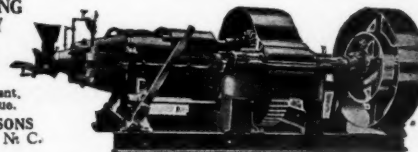
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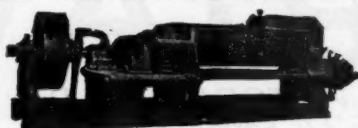
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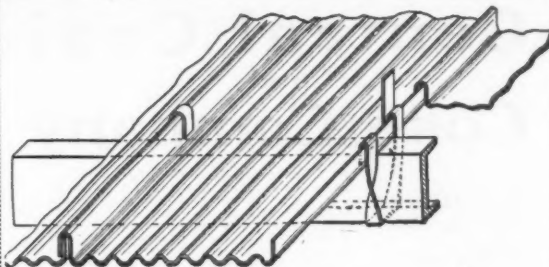
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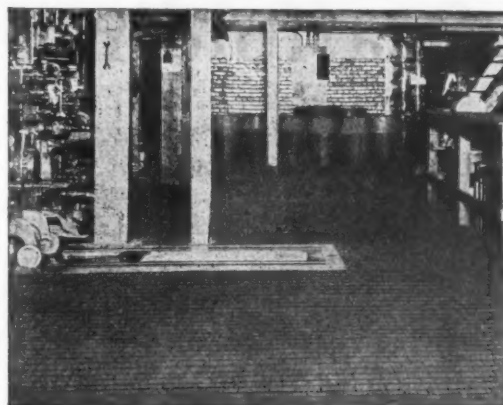
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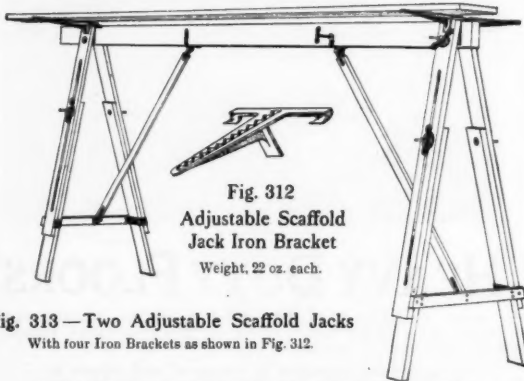


Fig. 312
Adjustable Scaffold
Jack Iron Bracket
Weight, 22 oz. each.

Fig. 313—Two Adjustable Scaffold Jacks
With four Iron Brackets as shown in Fig. 312.

Scaffold Jacks, as above illustrated, are made in all sizes from 2 to 16 feet

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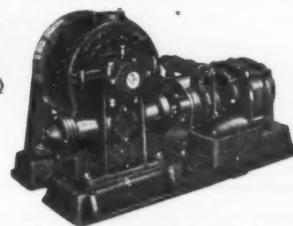
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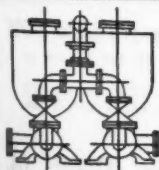
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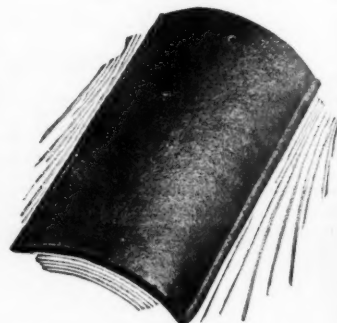
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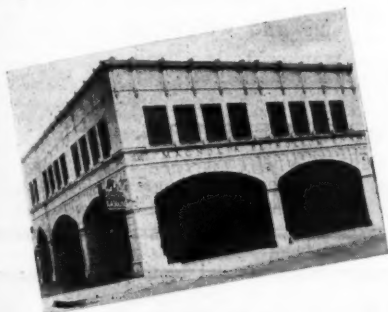
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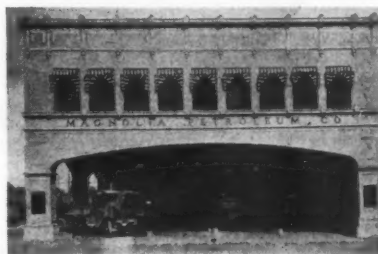
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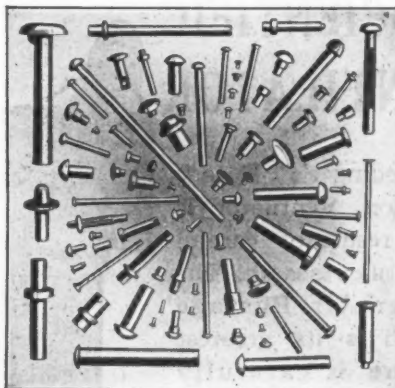
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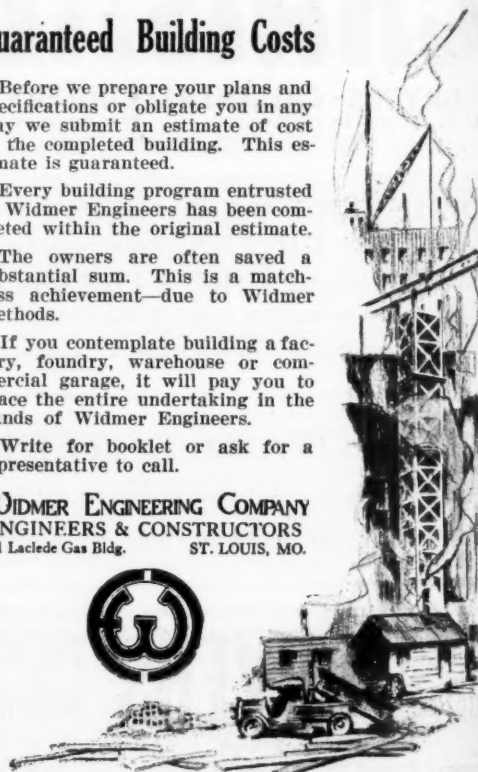
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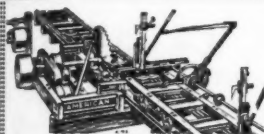
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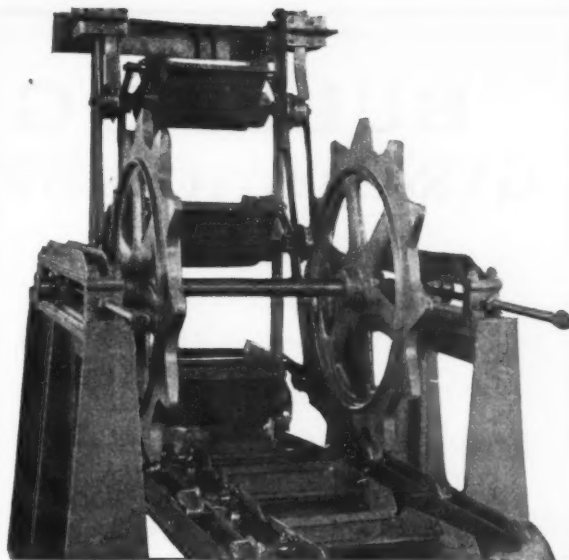
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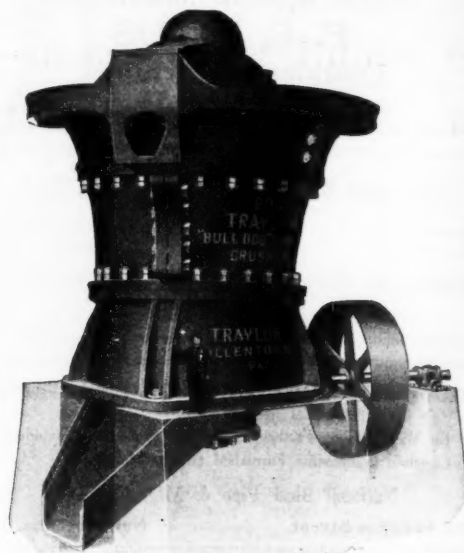


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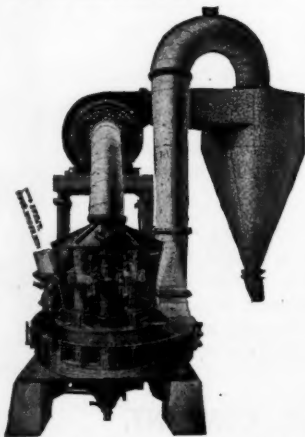
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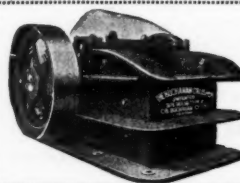
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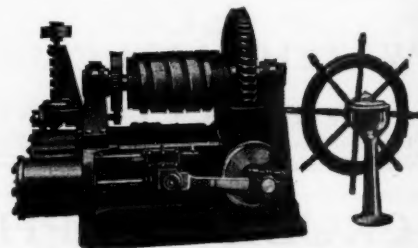


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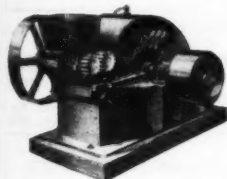
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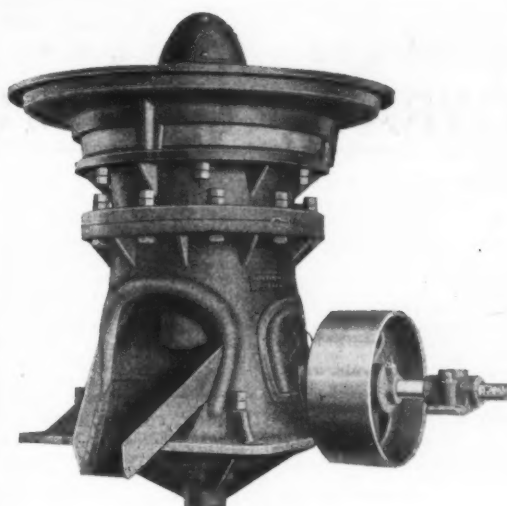
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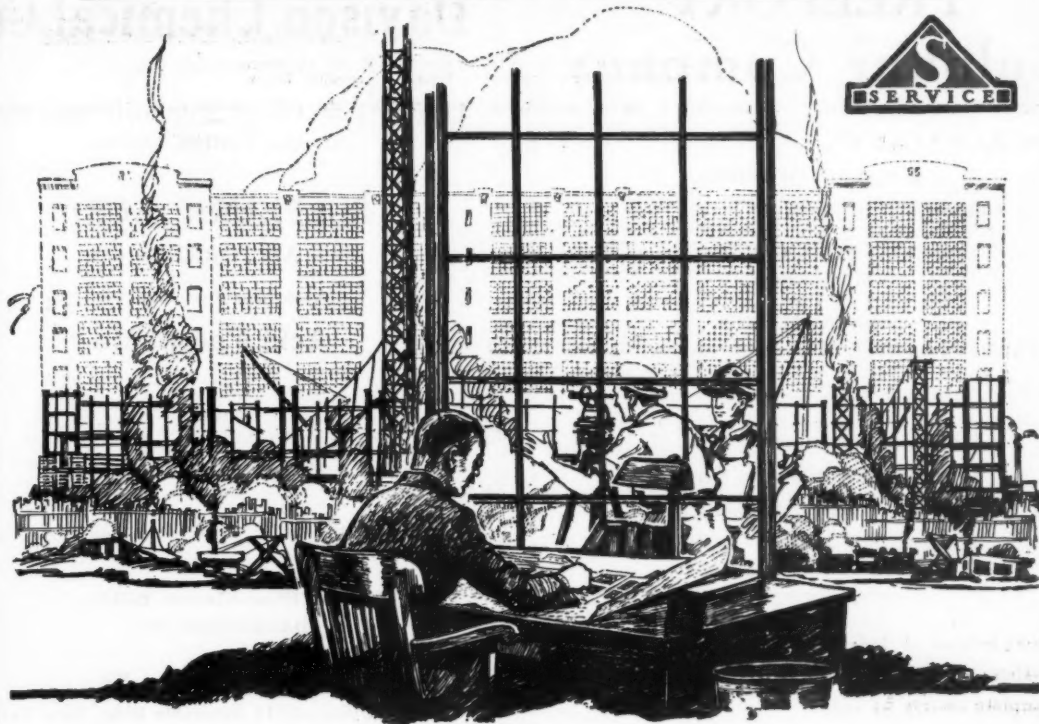
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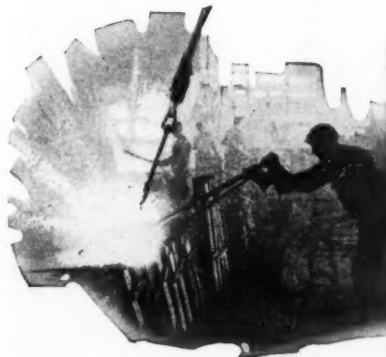
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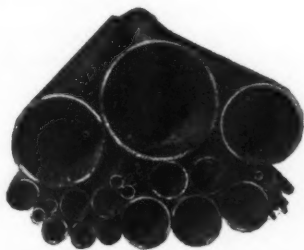
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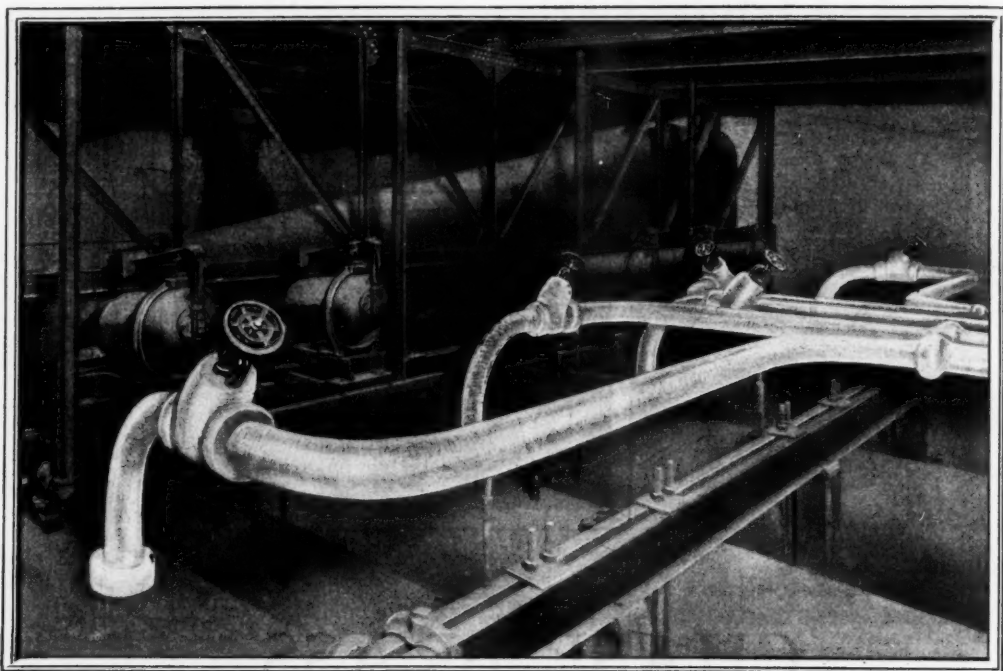


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Manufacturers Record

Exponent of America

OCTOBER 19, 1922

Volume LXXXII

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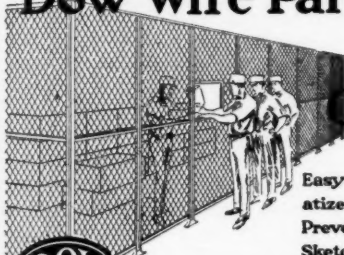
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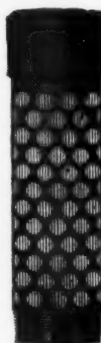
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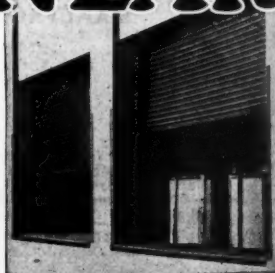
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In order to avoid delays all correspondence pertaining to news or advertising matters should be addressed directly to the Manufacturers Record, Baltimore, Md., and not to individual editors, officers, employees or any branch office.

PRESIDENT HARDING'S DENUNCIATION OF GOV. HARDING'S DRASTIC DEFLATION.

"The national fiscal policy has been directed to arrest the too rapid deflation which had set in, and to this end there has been a progressive reduction of the Federal Reserve discount rate. As a result of these policies, liberty bonds have progressively risen in value. The general financial situation has steadily improved, and today the country has a brighter prospect ahead of its business, industry and agriculture than at any time since the mistaken program of drastic deflation adopted by those who were then in control of Government policies."—Extract from President Harding's letter to Congressman Mondell.

A more vigorous statement against the drastic deflation of the Federal Reserve management has hardly been put forth by any one than this by President Harding. Here is a confirmation of everything which the MANUFACTURERS RECORD has said on the subject. Though couched in polite language, it is an emphatic renunciation of "those who were then in control of Government policies." In the light of this statement from President Harding there is no wonder that the same issue of the daily papers which published it carried a dispatch from Washington to the effect that Mr. W. P. G. Harding's chances for reappointment as Governor of the Federal Reserve Board have gone aglimmering. This dispatch says: "Senatorial opposition to W. P. G. Harding, former Governor of the Federal Reserve Board is believed by close friends of the President to have removed virtually all chances of his reappointment."

President Harding could not possibly reappoint Governor Harding without stultifying himself after the vigorous de-

nunciation he has made of the "too rapid deflation" brought about by those who were in charge of the Federal Reserve System. The progressive reduction of the Federal Reserve discount rate to which President Harding refers inevitably brought about a rise in the price of Government bonds, as the MANUFACTURERS RECORD over and over again said would be the case if the discount rate should be reduced, but the discount rate was maintained by the Federal Reserve Board until billions of these bonds had been forced out of the hands of honest holders who were compelled to realize on them, and until these billions of bonds had been bought in at 15 to 20 per cent below their face value by those who had the money available or who had credit with Federal Reserve banks. Hundreds of millions of dollars were made by the people who were favored by the breaking down of Government bonds through the action of the Federal Reserve System, to the loss of honest holders.

But Government bonds are only one feature of the loss brought on by deflation. More than \$30,000,000,000 worth of value was wiped out of farm and mine and factory products and securities by the same drastic policy, which well nigh bankrupted the universe. President Harding may well take credit for having brought about a change from drastic deflation, which was heading the nation to ruin, but even in this he might have moved a little more rapidly than he did, despite the tremendous power of the big financial interests to prevent any action until they were ready to reverse the policy. They are still fighting for the renomination of W. P. G. Harding, but President Harding has now made it impossible for him, after his denunciation of this drastic deflation under Governor Harding, to renominate the same man to that position.

Once more the MANUFACTURERS RECORD's position, in its long fight against deflation, is proven by the President's statement to have been correct.

FIGHTING THE BOLL WEEVIL WITH AERO- PLANES—SUGGESTION OF NEW FORCES AT WORK IN COTTON WORLD.

THE report in this issue of a test made in Louisiana by a government expert in fighting the boll weevil with calcium arsenate distributed over the growing plants from aeroplanes opens up a field of almost infinite speculation. To what extent will the aeroplane make feasible the fighting of the boll weevil in all parts of the South, and to what extent will the flying machine come into use for other purposes, are questions which immediately come to the mind of every thoughtful person.

The boll weevil is the menace of civilization, for on the Southern cotton crop depends the advance of civilization. It

is estimated that of the world's population of about 1,700,000,000 there are one billion people of whom three-fourths are only partly clothed and one-fourth wholly unclothed.

The advancement of civilization is marked by the amount of clothes that are worn, and in this respect the South's cotton measures to a large extent the progress of civilization. It was well said many years ago that the missionary of the gospel, as he penetrates the wilds of Africa and opens up to modern conditions the isles of the sea, is an advance agent for American cotton, since an increased consumption of cotton goods goes hand in hand with religious and educational progress.

The South could live without the production of cotton. Its farmers could turn to diversified agriculture, and make as **large profit as they can possibly make in raising cotton**, even at much higher prices than those now prevailing. It would have been a blessing to the South if it had never raised a bale of cotton, for then it would have been the center of diversified agriculture in this country. It would have grown rich on diversified farming and on the vast industrial development which would have made this section the center of manufacturing in America long before this, if it had not been that cotton proved its curse.

The growth of cotton resulted in the spread of slavery, and slavery enchaind the South to a false system of economic development. To the South as a whole slavery and cotton proved a curse beyond the power of words to express, but cotton produced by slave labor brought untold blessings to the rest of the world. A distinguished English historian well said that the cotton industry of Great Britain made possible England's ability to recover financially from the fearful cost of the Napoleonic wars; but while the South was thus blessing the rest of the world it was being robbed of its own birthright.

Following the Civil War, which came about largely as a result of the economic theories developed by the raising of cotton by slave labor, the South was in deep and desperate poverty, and the financial and cotton forces of the world were then concentrated to keep cotton at a price which enslaved the cotton growers, whites and blacks, to a far greater extent than the slavery of the blacks prior to 1860.

Every man who has sought to break down the price of cotton, has to the extent of his ability used his influence to bring great poverty and suffering to the cotton growers of the South. To the influence of such people is due the fact that hundreds of thousands of women work in the cotton fields; that hundreds of thousands of children are without education, because they, too, must work in the cotton fields. Cotton has been raised through the slavery not only of the white and the black men, but of the white and black women and children, and yet there are some cotton manufacturers in this country, who like European cotton manufacturers, view with the utmost horror any effort on the part of Southern cotton growers to get a living price for their work.

As the cotton mill people of the South, and some from other sections, meet and mingle with textile machinery manufacturers and cotton growers and cotton mill operatives at

the Greenville Exposition now open, they should remember that it is just as essential, from the business as well as from the ethical point of view, that they do all in their power to benefit the cotton grower as it is to help make comfortable the surroundings of the cotton mill operative. The cotton grower indeed is in one sense an employee of the cotton mill. He is simply producing cotton for the benefit of the mill, without which the mills would close. He is the associate, the co-worker, the partner of the mill owner and the stockholder in the mill, and of the mill operatives. The mill owner or stockholder who fails to realize that he has just as great a responsibility to the cotton grower as to the mill operatives is shortsighted, even when viewed from the purely selfish standpoint. Unless the cotton manufacturers, not only the managers of mills, but the stockholders in mills, take a vital, living interest in bettering the condition of cotton growers; unless they endeavor to see that better homes are provided for them; that a better price is secured for their cotton, they will be just as recreant to their moral responsibilities and to the welfare of their industries as they would be if they continued to permit their operatives to live in huts on a starvation wage basis, caring not for their moral or physical well-being.

The cotton mill people of the South hold a dominating position in this section. They are great leaders in its material development and they have it within their power to change the thought of the world as to the price of cotton. They should stand with the cotton grower and fight for his welfare and for a profitable price for his products. In that way they would break down or conquer the efforts of manufacturers in other sections and in Europe to regard the cotton grower of the South merely as a piece of human machinery to be worked to the utmost limit of its power and then thrown on the scrap heap of disease and poverty.

The Southern cotton mill people can change the atmosphere in which the cotton growing business lives. They can encourage the cotton farmer. They can stand for higher prices for him, for better living conditions, whether he be white or black, and in doing so they will not only insure the safety of their own supply of raw material for the future but they will add amazingly to the wealth of every class of people in the South.

Until cotton brings a profitable price to the grower there can be no well rounded development of prosperity of all classes of the South, and unless cotton does bring a profitable price to the growers it is absolutely certain that more and more this section will turn from cotton to diversified agriculture, to the increasing profit of the farmers, and gradually to the wider diversification of the prosperity of the whole South.

But if Southern farmers cease to grow cotton—and that it is not at all an impossibility—where will the cotton mills of the South, of New England, and of the rest of the world get their raw material? This is a question which Southern cotton manufacturers and others who meet in Greenville this week may well consider as of vital importance to them, viewed from the moral or the purely business standpoint.

Railroad Presidents Tell of Rolling Stock Orders.

IN SPECIAL DISPATCHES TO THE MANUFACTURERS RECORD MANY OFFICIALS REPORT CONDITIONS ON THEIR LINES AND CAR AND ENGINE ORDERS.

THAT there is an acute transportation shortage throughout a large part of the country goes without saying, for every shipper knows it only too well. That there must be an enormous increase in the ability of railroads to handle traffic promptly, or else the cost to the country in lessened business will be greater by billions of dollars than would be the cost of expansion of railroad facilities to meet this condition, is likewise known to every business man.

We are publishing today letters and telegrams from many of the leading railroad presidents of the United States as to what plans their roads are making for expansion of their facilities. Some of these replies are exceedingly encouraging and indicate that progress is being made in adding to the number of cars and locomotives, involving the expenditure of many millions of dollars, giving great encouragement to shippers for future betterment of transportation, but as a whole there is not yet in sight, we believe, an extension of railroad facilities sufficiently great to meet the needs of the country, for business will expand just as rapidly as increased transportation can be provided. It is now halted and hampered and throttled by inadequate facilities.

Some of the replies received from railroad presidents indicate that their roads are not suffering from a congestion of traffic but are able to handle all of the business received. Some other presidents take the ground that if they could get back on their own lines all of the cars belonging to them and which are now held by other roads, especially by those in the East, they would be able to take care of all business offered.

There is a very considerable amount of rolling stock already contracted for, as shown by these reports from railroad officials, but we do not believe that the amount thus far ordered will begin to meet the requirements of the country.

During the last eight years the number of cars and locomotives ordered by the railroads has been extremely small as compared with preceding years. As far back as twenty years ago the railroads were ordering more than 4000 locomotives a year and nearly 200,000 cars annually. Last year the railroads ordered 239 locomotives and 23,346 cars, figures so absurdly small as to be startling in the significance of their meaning as an explanation of the breakdown of traffic facilities.

In 1905 the number of cars ordered by the railroads rose to 341,000, and in that year the roads ordered 6265 locomotives.

In 1906, 310,000 cars were ordered and 5642 locomotives.

The number of cars ordered in those two years exceeded by 50,000 the total number of cars ordered during the last seven years, and was nearly equal to the total number ordered during the last eight years.

The 11,907 locomotives ordered in 1905 and 1906 largely exceeded the total number ordered during the last six years.

It is true that the cars and locomotives of the present day are somewhat greater in capacity than those of the earlier period, but the difference is not nearly so great as to have any material effect against the overwhelming decrease in the number of cars and locomotives ordered during the past years as compared with preceding periods.

The following figures show year by year, beginning with 1901, the number of cars and locomotives ordered for the entire country. The present year will make a little better showing than 1921, but the figures for that year are so insignificant as to be almost negligible.

LOCOMOTIVES AND FREIGHT CARS ORDERED SINCE 1900.

Year.	Locomotives Number.	Cars Number.
1901	4,340	193,439
1902	4,665	195,248
1903	3,283	108,936
1904	2,538	136,561
1905	6,265	341,315
1906	5,642	310,315
1907	3,482	151,711
1908	1,182	62,669
1909	3,350	189,360
1910	3,787	141,024
1911	2,850	133,117
1912	4,515	234,758
1913	3,467	146,732
1914	1,265	80,264
1915	1,612	109,792
1916	2,910	170,054
1917	2,704	79,367
1918	2,593	114,113
1919	214	22,062
1920	1,998	84,207
1921	239	23,346

The development of traffic on American railroads is indicated by the ton mileage for different periods beginning with 1900, in which year the total ton mileage was 141,596,550,000, which rose steadily to 405,379,284,000 ton miles in 1918. There was a drop in 1919 and a further increase in 1920 with a heavy decrease in 1921, but with returning prosperity the indications are that the total traffic for this year will reach and possibly surpass the large figures for 1918, and yet the railroads have made comparatively little increase in the number of cars and locomotives.

RAILROAD TRAFFIC SINCE 1900.

Year.	Ton Mileage.
1900	141,596,551,161
1905	186,463,109,510
1910	255,016,910,451
1915	276,830,302,723
1916	305,771,824,741
1917	394,465,400,493
1918	405,379,284,206
1919	364,293,063,017
1920	413,698,749,000
1921	309,443,050,000

There are about 2,500,000 freight cars in the country. The rate of depreciation largely exceeds the total number of cars ordered for recent years, and the same is doubtless true in regard to locomotives. The roadbeds have not been kept up to full standard, the rolling stock, both locomotives and cars is to a large extent in very bad shape. No one can watch the freight trains of the country as they pass without being struck with the fact that it is almost impossible to find freight cars that have been painted within the last year or two. Thousands look as though they had not been painted for five years and thousands as though they would drop to pieces on the track. Under these conditions the railroads are facing an ever growing traffic, limited only by their facilities. The MANUFACTURERS RECORD is in constant receipt of letters from shippers telling of the utter inability to deliver goods. Sawmills cannot ship their product, iron and steel plants are hampered as they have not been for years by lack of shipping facilities. In some places food has been rotting on the ground because the railroads cannot handle it. These are facts which must be faced by railroad managers.

It is true that the whole transportation business has suffered ever since it passed under the domination of Government control during the war and by the labor domination brought about by the passage of the Adamson Act.

Considering the disadvantages under which the railroads have labored, it is to their credit that they are able to handle as large a volume of business as they are doing. But over night that volume of business would increase by leaps and bounds if facilities were available to handle the freight that is ready for shipment. Railroad owners cannot ignore this

situation. Some method must be found for the re-financing of railroads, for the expenditures of many billions of dollars to increase trackage sidings, terminal facilities and rolling stock which will enable the available freight of the country to be moved expeditiously. As a nation we can no longer permit our transportation facilities to halt or hinder the expansion of business.

We have invited from railroad presidents in all parts of the country their views on the situation, with the request that they would give us facts as to what plans they are making for expansion of their facilities. We are publishing their replies, which are exceedingly interesting and encouraging, and now we invite the shippers, the manufacturers, the merchants and others, to tell us freely to what extent their business is being hampered by the lack of shipping facilities on the part of the railroads.

To many railroad presidents and builders of rolling stock we sent the following telegrams:

[To Railroad Presidents]

"In view of acute congestion of traffic and growth of business in excess of transportation will you kindly write or wire me as to what steps your road is taking to enlarge rolling stock and increase its facilities to meet growing business I am sending similar telegram to other railroad presidents."

[To Car and Locomotive Plants]

"In view of railroad breakdown and inability to handle business of country please write or wire extent to which in your opinion building of cars and locomotives could be increased if all shops were pushed to their utmost capacity. Also to what extent your plant is employed on orders now in hand.

The replies thus far received follow.

Letters and Telegrams from Railroad Presidents.

Santa Fe Commitments for Betterments, Equipment and New Lines Now Aggregate More Than \$70,000,000.

The Atchison, Topeka & Santa Fe Railway System

Chicago, Ill., October 11.

Editor Manufacturers Record:

In regard to what we are doing to enlarge our plant to take care of additional business; our authorizations for capital expenditures for 1922 up to September 1 comprised:

Additions and Betterments.....	\$26,585,293
New Equipment.....	14,732,593
New Lines.....	7,033,100
Total	\$48,351,076

Included in the above are 75 miles of second track, 2500 refrigerator cars, practically all delivered, 2000 box cars, now building for delivery about the first of the year, and 148.54 miles of new lines.

In addition to the above we have just placed orders, for delivery early in 1923, for 5150 new freight cars and 59 new locomotives, to cost, it is estimated, \$18,723,000, and we are expecting to add 140 miles of second track. Our general addition and betterment program for next year will not be before us until the latter part of December, but it will probably be about the same as this year.

W. B. YOUNG, President.

Large Orders for Equipment and Facilities Placed by Atlantic Coast Line.

Atlantic Coast Line Railroad Co.

[Telegram to Manufacturers Record.]

Wilmington, N. C., October 10.

In order to meet the growth of business in our section this company has recently placed orders for 30,000 tons of one hundred pound rail, 25 locomotives, fifteen passenger coaches, 5 express cars and 2000 freight cars and has authorized double tracking of 44 miles of its main line and the enlargement of passing yard and station tracks.

J. R. KENLY, President.

Baltimore & Ohio Orders New Equipment, Extensions and Additions.

The Baltimore & Ohio Railroad Company

Baltimore, Md., October 14.

Editor Manufacturers Record:

Your messages of October 9th and 13th to President Willard have been received during his absence on the line. After communicating with him he requests me to say that the Baltimore & Ohio some months since placed an order for 100 heavy freight and passenger locomotives to be delivered by the first of the year, and that delivery of these engines has already begun. An order was also placed some months ago for 100 units of steel passenger equipment, the delivery of which is expected to begin within the next four weeks. In addition 2000 new steel freight cars were ordered, early delivery of which is also expected. The Baltimore & Ohio is also making such other extensions and additions to its property to meet conditions as the financial aspects of the situation seem to justify.

JAMES S. MURRAY,
Assistant to President.

Boston & Maine Has Spent \$5,000,000 a Year for 10 Years.

Boston & Maine Railroad,

[Telegram to Manufacturers Record.]

Boston, Mass., October 13.

Over a period of ten years the Boston & Maine has averaged an annual expenditure of approximately \$5,000,000 for increased and improved facilities and equipment. The recent financial situation has temporarily restricted improvements to absolute necessities. During the present year, however, we have contracted for 24 new switching locomotives, which have recently been delivered; 100 units of steel passenger train equipment and 25 milk cars. No freight car equipment is now under order but heavy expenditures have been incurred in rebuilding and modernizing existing freight equipment, and this program has been continued through the recent business depression.

J. H. HUSTIS, President.

Car and Locomotive Purchases and Large Budget for Improvements Announced by Rock Island.

The Chicago, Rock Island & Pacific Railway Company,

[Telegram to Manufacturers Record.]

Chicago, Ill., October 10.

The program of this company contemplates placing orders promptly for the following equipment: 40 locomotives, 2500 freight cars, 50 all-steel passenger coaches. In addition, our directors have tentatively authorized a very large budget for improvements to roadway and track, practically all of which money will be expended in the extension and enlargement of our facilities to enable us to handle increased traffic. The details of these various items have not as yet been worked out, and I am not able at this time to definitely advise you in detail regarding same.

J. E. GORMAN, President.

Chicago Great Western Doing Utmost to Recover from Conditions Inherited from Railroad Administration.

Chicago Great Western Railroad Company

Chicago, October 11.

Editor Manufacturers Record:

We have 1677 freight cars in outside shops receiving heavy repairs, 500 new box cars under contract, 20 locomotives and 12 passenger cars in outside shops. In addition to this our shops are running full time. Everything is being done to supply equipment. Our bad order condition is an inheritance from the Railroad Administration, and we are doing all we can to restore our equipment to normal in the way indicated.

S. M. FELTON, President.

Extraordinary Endeavors to Promptly Handle Increasing Business Reported by Central of Georgia.

Central of Georgia Railway Company
Savannah, Ga., October 10.

Editor Manufacturers Record:

We have recently purchased and have just had delivery on 500 ventilated box cars; we now have under construction 100 flat cars and 2 mountain-type locomotives, and we are converting 8 consolidation locomotives to mikados.

In addition to these purchases we have paid special attention to the reorganization of our shop forces and they have now reached a point where their output of general repairs to freight cars is 28 per cent above what it was prior to the strike. The number of bad order freight cars has been reduced from 1074 on June 30 to 639 on October 6, a decrease of 40 per cent.

Every effort is being exerted to make the best use of the equipment on hand, with the result that during September four efficiency records were established: We handled the greatest number of tons of freight in our history; we moved our cars faster than has been shown by any record that has been kept, having maintained a daily average of 34.43 miles per car per day; the net ton miles per car day was 613; and the percentage of loaded car miles to empty car miles was 78—each of these figures being the highest of record.

Extraordinary endeavors are being made by all officers and men to handle increasing business properly and promptly.

W. A. WINBURN, President.

Heavy Increase in Rolling Stock and Facilities Announced by St. Paul.

Chicago, Milwaukee & St. Paul Railway Company
Chicago, Ill., October 10.

Editor Manufacturers Record:

During this year we have purchased 2500 50-ton steel gondola cars, all of which are now in service; 3500 40-ton steel frame box cars and 500 steel frame automobile cars, which are now being delivered by four different manufacturing plants at the rate of 100 a day; 25 large Mikado locomotives, which are now being delivered. We also are planning the purchase of a considerable number of new freight cars and locomotives for next year's delivery. In addition to the above we have entirely rebuilt at our own shops this year approximately 5000 steel underframe cars, practically making them new cars. We also have made considerable expenditures for increasing terminal facilities, tracks, etc., on parts of our line carrying heavy traffic.

H. E. BYRAM, President.

Burlington Spending \$30,000,000 for Improvements and Equipment.

Chicago, Burlington & Quincy Railroad Company
Chicago, Ill., October 10.

Editor Manufacturers Record:

This company is completing an expenditure of approximately \$30,000,000, covering budget of improvements to road and equipment for the present year, subdivided approximately one-half for 5500 additional freight train cars, 95 passenger train cars and 40 heavy freight and passenger locomotives, and the remaining one-half for improvements calculated to increase capacity by means of additional second tracks, yard and terminal enlargements, extension of automatic signal territory, etc.

There is no congestion of traffic upon this line, nor shortage of transportation facilities, beyond the usual and temporary conditions which naturally arise from the handling of an unusual volume of business.

HALE HOLDEN, President.

Chesapeake & Ohio Buying Much New Equipment and Greatly Expanding Facilities.

The Chesapeake & Ohio Railway Company,
Richmond, Va., Oct. 13.

Editor Manufacturers Record:

We have arranged to purchase the following cars:

Freight cars—1870 40-ton box cars; 500 40-ton ventilated box cars; 200 40-ton stock cars; 50 30-ton refrigerator cars; 1500 57½-ton hopper bottom gondolas; 1500 57½-ton flat bottom gondolas.

Passenger train cars—30 all steel coaches; 8 all steel combination cars; 25 all steel express cars; 5 all steel diners.

We have just made contract for purchase of 58 locomotives, to be delivered early next year.

We have arranged for the issuance of \$12,500,000 preferred stock, the proceeds of which we expect to expend at various places along our line and which will add greatly to our facilities.

We have also arranged for the repair of enough cars at outside shops, together with what we can repair in our own shops, working them full force, so as to get the bad order cars down to the proper number just as early as can possibly be done.

W. J. HARRAHAN, President.

Chicago & Northwestern Orders 4000 Freight Cars.

Chicago & Northwestern Railway Co.
[Telegram to Manufacturers Record.]

Chicago, Ill., October 11.

This company is taking all possible means to increase transportation facilities. We have ordered over 4000 freight cars and 70 locomotives for this year's delivery. We are sending locomotives to outside shops for heavy repairs and using all means for repairing and keeping in service equipment now owned.

W. H. FINLEY, President.

Delaware & Hudson Able to Handle all Business Offered.

Delaware & Hudson Co.

[Telegram to Manufacturers Record.]

New York, N. Y., October 10.

For the fullest and most economical use of a railroad there must be a balance of its several parts; that is, an equation must be maintained between the main tracks and sidings, the working yards and delivery tracks, the number of engines, the number of passenger cars, the number of freight cars and the shop facilities for caring for the equipment. In the growth of American railways I have always felt that from a variety of causes there has accumulated a supply of freight equipment out of proportion in its relation to the other elements of the railways, and I feel that this is one of the troubles with the present railroad situation. The railroad plant is also, to some extent, out of balance in not having sufficient facilities to handle their cars promptly. The worst feature of this is the lack of industrial sidetrack and unloading accommodations owned by the shippers, making it impossible for them to accept cars promptly and handle them expeditiously. The railroad facilities furnished by public authorities, particularly at large centers like New York, are also inadequate. The foregoing applies to the railways of the country as a whole. I have no doubt of this company's ability to handle all the business offering with its present equipment and facilities.

L. F. LOREE, President.

Lackawanna States Policy is to Keep Abreast of Traffic.

Delaware, Lackawanna & Western Railroad Co.
[Telegram to Manufacturers Record.]

New York, N. Y., October 13.

While it is still our policy, as in the past, to keep abreast of traffic, we have no announcements to make regarding increased equipment and other facilities in addition to those which were made public a month and more ago.

W. H. TRUESDALE, President.

Erie Thinks Equipment Under Orders Will Meet Requirements
Erie Railroad Company,
New York, N. Y., October 14.

Editor Manufacturers Record:

During the lull in business, and the coal and shopmen's strikes, Erie Railroad in common with other roads lost ground on the repairs of its cars and engines. Its first move is to put them in their normal condition. It has ordered 60 new heavy freight locomotives and 5000 new cars.

These new locomotives and cars, together with the repairs on the present equipment, will, we think, afford ample facilities.

F. D. UNDERWOOD, President.

New Equipment Ordered by Florida East Coast Road
Florida East Coast Railway Co.

[Telegram to Manufacturers Record.]

New York, October 13.

At present we, of course, are not having any congestion of traffic on our line, but anticipating the future we ordered earlier in the year, and are now awaiting delivery, 10 passenger train express cars and the following freight train equipment—10 caboose cars, 30 tank cars, 175 refrigerator cars.

W. H. BEARDSLEY, President

Great Northern Sees Sole Difficulty in Failure of Eastern Lines to Return Its Cars.

Great Northern Railway Co.

[Telegram to Manufacturers Record.]

St. Paul, Minn., October 10.

The greatest need in the way of more equipment to take care of present business is to get equipment moved more rapidly and get better distribution of it. At present the main equipment of the country is in the East, leaving the Northwest in very bad shape, and I dare say is causing congestion there rather than helping the situation. The Great Northern would be all right if it could get its cars back from the East.

RALPH BUDD, President.

Texas Road Reports Ample Facilities.

International & Great Northern Railway

[Telegram to Manufacturers Record.]

Houston, Tex., Oct. 13.

This road is still in charge of receiver and will probably continue until December 1. We increased our power last year. Have a number of engines white leaded and are handling all business offered promptly and can handle a great deal more with present facilities.

JAMES A. BAKER.

\$23,340,000 Being Expended by Louisville & Nashville on New Equipment and Facilities.

Louisville & Nashville Railroad Co.

[Telegram to Manufacturers Record.]

Louisville, Ky., October 11.

The Louisville & Nashville is providing 2000 new freight cars, 25 new passenger cars, 70 new locomotives, 32 miles second track, new yards and other facilities designed to enlarge and improve the transportation capacity, involving an aggregate expenditure of \$23,340,000.

W. L. MAPOTHER, President.

Kansas City Southern Plans Not Yet Developed.

Kansas City Southern Railway Co.

[Telegram to Manufacturers Record.]

Kansas City, Mo., Oct. 12.

Our plans for rolling stock and additions to present facilities have not been developed to a point where we can give you any definite advice.

J. A. EDSON, President.

Over \$100,000,000 Spent on Illinois Central in Past Five Years.

Illinois Central Railroad Co.

[Telegram to Manufacturers Record.]

Chicago, Ill., October 11.

Past five years Illinois Central has spent more than 21,000,000 annually for improved and additional facilities and additional cars and engines we have kept abreast with growth of traffic in territory served by our system, but in the nature of things we do not escape sharing in general car shortage such as exists today. Now receiving delivery 5000 new cars and will shortly commence receiving 65 new locomotives recently ordered. It is our purpose to continue policy of making necessary expenditures to maintain the railroad in position to adequately serve the territory dependent upon it for transportation.

C. H. MARKHAM, President.

Lehigh Valley Makes Determined Drive to Meet All Requirements.

Lehigh Valley Railroad Company

New York, October 11.

Editor Manufacturers Record:

Ever since the end of Government operation we have made a determined drive on the Lehigh Valley to restore its equipment to the condition it was in prior to Federal control. Our cars, which previously had been maintained at the highest possible standard, suffered fearfully during this time. During the year 1921 alone we expended upwards of \$25,000,000 on maintenance of equipment that it might not be found wanting when business demands were made upon us.

The policy of keeping our rolling stock in the best possible shape has not been abandoned this year nor even during the shopmen's strike. We have sent large numbers of cars and locomotives to outside plants for repairs and, in addition, we will soon receive from the builders 5 new freight locomotives, while orders have been placed for 30 additional freight engines for early delivery.

It is an interesting comment, of which we are particularly proud, that no anthracite colliery located on our rails has been compelled to suspend mining for a single moment because of a car shortage since the ending of the coal strike, while on the other hand these mines show an output between the resumption of mining and October 10, inclusive, of 23.2% in excess of their showing for a corresponding period last year.

Lehigh Valley is building and will soon open for service Claremont Terminal, a great water and rail development on the shore of New York Bay, which we believe represents a step in advance of anything heretofore undertaken in this vicinity. The first unit of this terminal will be available for business before the first of the year.

E. E. LOOMIS, President.

7000 New Cars and Other Equipment Ordered by Norfolk & Western.

Norfolk & Western Railway Co.

[Telegram to Manufacturers Record.]

Roanoke, Va., October 10.

The Norfolk and Western has under order and is now receiving 6000 seventy ton all steel hopper coal cars, has also under order 1000 fifty-ton box cars, 7 all steel dining cars, 30 mallet engines, with tractive power \$104,000 pounds; 12 mountain type passenger engines and 4 electric freight locomotives. In addition we are rebuilding 500 all steel hopper cars. Our track and shop facilities are ample for maximum movement, with full percentage of shopmen at work, and are gaining rapidly on condition of power.

N. D. MAHER, President.

Fifty New Engines for Missouri Pacific.

Missouri Pacific Railroad Co.

[Telegram to Manufacturers Record.]

St. Louis, Mo., October 10.

The Missouri Pacific just purchased 46 heavy type mikado freight engines and 4 mountain type passenger engines, to be delivered December and January next.

B. F. BUSH, President.

20,000 New Freight Cars Bought by New York Central

New York Central Lines,

[Telegram to Manufacturers Record.]

New York, N. Y., October 16.

New York Central Lines have bought this year 325 locomotives and 20,000 cars. All of this equipment is of the most modern type. In addition to that they have had heavy repairs to more than 40,000 freight cars.

A. H. SMITH, President.

Much New Equipment Under Order by Nashville, Chattanooga & St. Louis Railway.

Nashville, Chattanooga & St. Louis Railway Co.

[Telegram to Manufacturers Record.]

Nashville, Tenn., October 10.

We have under order 1000 freight cars and 15 all steel passenger cars, for delivery during latter part of year, and 15 locomotives, delivery of which will begin in a few days.

W. R. COLE, President.

Northern Pacific Declares Eastern Connections to Blame for Conditions on Northwestern Lines.

Northern Pacific Railway Co.

[Telegram to Manufacturers Record.]

St. Paul, Minn., October 10.

Equipment now owned by or under order for Northern Pacific Railway Company is adequate to take care of business now being offered to us but difficulty lies in fact that a considerable proportion of this equipment is not in our possession but in that of our Eastern connections. In my judgment all lines serving this territory could take care adequately of business now being offered if equipment actually owned by them and in possession of Eastern connections could be returned to them so that each of Northwestern carriers could have one hundred per cent of its ownership on its line.

CHARLES DONNELLY, President.

Millions Being Spent by New Haven Road.

The New York, New Haven & Hartford Railroad Company

New Haven, Conn., October 10.

Editor Manufacturers Record:

Congestion of traffic is not due to growth in excess of transportation, but to the temporary situation arising from prolonged suspension of coal mining, resulting in the temporary necessity of mining and shipping in excess of the normal average; to the temporary situation incidental to the strike of the shopmen against the action of the United States Labor Board, a body established by Congress and carrying its responsibility in pursuance with the provisions of the law; and to considerable slack in the use of transportation facilities, because the loading of cars by shippers is not up to possible capacity in all instances, and a large amount of delay is incidental to reconsignment and other causes beyond the control of the carrier, etc.

Just as soon as industry and the condition of the transportation plant is brought back to normal, there will be adequate transportation capacity if there is thorough co-operation on the part of shippers and railroads in the direction of maximum efficiency and economy. Notwithstanding the temporary situation now existing and the improvements that are possible through diligent co-operative endeavor on the part of all con-

cerned, several million dollars are being expended by the New Haven Railroad for various improvements in the physical property, which will add to capacity, and for some additional power.

E. J. PEARSON, President.

Reading Road Reports No Congestion.

Philadelphia & Reading Railroad Co.

[Telegram to Manufacturers Record.]

Philadelphia, Pa., October 10.

The Philadelphia & Reading early this year ordered 100 steel coaches, 2000 coal cars and 25 consolidation freight engines. In midsummer we ordered 1000 high side steel gondolas. There is no congestion on the Reading.

AGNEW T. DICE, President.

Pennsylvania Program Curtailed Because of Deficiency in Net Earnings.

Pennsylvania System,

[Telegram to Manufacturers Record.]

Philadelphia, Pa., October 14.

The Pennsylvania Railroad is doing all in its power to provide adequate transportation facilities and avoid delay and congestion. Embargoes are being removed. Impossible for country to engage in strikes such as have occurred, notably those in soft and hard coal traffic, and dam the flow of commerce, and on termination of such strikes expect railroads to immediately handle traffic without congestion. Inadequate net returns for many years prevented railroads from making sufficient capital outlays to take care of abnormal flow of traffic.

Chief improvement and renewal program of Pennsylvania Railroad consists of following items: Completion of Detroit extension, improvement and extension of freight facilities and yards near Harrisburg, Pa., Newark, N. J., Baltimore and Hagerstown, Md., South Philadelphia, Pittsburgh, Sharpsburg and Pitscairn, Pa.; additional tracks from Kenwood to Rochester, Pa., and at other points; extension of equipment construction and repair facilities, Altoona Shops; construction of 100 new freight locomotives, 15 new passenger locomotives, 3 electric locomotives, 100 latest type cabin cars, conversion of large number of freight cars from fifty ton to seventy ton capacity. Whole program will take year or more for final completion.

Government settlements for Federal control and guaranty periods not yet made.

Above program much less than ought to be done or what we would like to do if net earnings had justified.

SAMUEL REA, President.

Thousands of New Cars Ordered by Frisco Lines and Extensive Improvements and Betterments Made.

St. Louis-San Francisco Railway Company

Editor Manufacturers Record:

St. Louis, Mo., October 10.

This company has completed within the past two years extensive improvements to its roundhouses and shops and we have equipped our main shops, at Springfield, Mo., with the very latest type of machines; have also equipped our shops at outlying points with the same class of machines, which increases our output. We completed last year double track from Olathe, Kan. to Spring Hill, Kan., and are now building double track from Spring Hill to Paola, Kan., which will give us double track from Paola to Kansas City. We also completed last year double track from Monett, Mo., to Globe, Mo., and from Pacific, Mo., to Eureka, Mo., and are at present constructing double track from Valley Park, Mo., to Windsor Springs, Mo., and expect to continue this work next year,

which will give us double track from Saint Louis to Pacific, Mo., a distance of 38 miles, and this will also reduce our grade line at Valley Park from 1½% to .8%, which will expedite the movement of trains. Contemplate other double track construction next year.

We are carrying out our budget program of rebuilding our freight and passenger equipment. Our freight car shops are now working to full capacity. The American Car & Foundry Company, St. Charles, Mo., are building for us 1000 50-ton, all steel, self-clearing hopper coal car bodies to take the place of lighter equipment. They are also building for us 1200 steel-underframed, steel-superstructured box cars. The Mt. Vernon Car Company, Mt. Vernon, Ill., are building 300 steel under-frame stock cars, and the Chickasaw Car and Shipbuilding Company, Birmingham, are building for us 1000 all-steel, 55-ton, self-clearing hopper coal cars, and the Pullman Company, Chicago, 500 similar cars. The American Car & Foundry Company, Saint Louis, are building 14 steel passenger cars for us. The Baldwin Locomotive Works are now constructing for us 35 large mikado type freight engines and 15 mountain type passenger engines.

J. M. KURN, President.

No Congestion on Southern Pacific.

Southern Pacific Co.

[Telegram to Manufacturers Record.]

San Francisco, Cal., October 11.

Your wire to Mr. Sproule. Southern Pacific Company has no congestion of traffic on its lines. Soon as 1923 appropriations are in final form for public announcement will give you information requested.

R. E. KELLY, Representative Executive Dept.

Union Pacific Ready to Meet Requirements.

Union Pacific System,

[Telegram to Manufacturers Record.]

New York, N. Y., October 14.

We have this year purchased 4500 box cars, participated with Southern Pacific in purchase of 3300 refrigerator cars and just let contract for 80 new locomotives. With this addition to the rolling stock the Union Pacific can handle all traffic accruing to it.

C. R. GRAY, President.

Letters and Telegrams from Builders of Rolling Stock.

President Vaclain, Baldwin Locomotive Works, Takes Highly Optimistic View.

Baldwin Locomotive Works

[Telegram to Manufacturers Record.]

Philadelphia, Pa., October 10.

We believe that the present transportation difficulties will soon be a thing of the past. All railroads are putting their locomotives and cars in shape and amplifying their equipment to meet the demands of a very rapidly increasing prosperity. All available cars and locomotive building facilities are being operated with increasing capacity. Don't worry.

SAMUEL M. VACLAINE, President.

Iowa Works Busy on Locomotives.

Davenport Locomotive Works

Davenport, Iowa, Oct. 12.

Editor Manufacturers Record:

We are running our shop at full capacity, 90% being on repairing railroad locomotives. However, as the number of men we employ is less than 1000 our effect on the situation is not very great.

I am not familiar with the general situation as to amount of work being done in the various shops, so cannot reply to the first part of your question.

E. S. JOHNSON, President.

Labor Scarcity Blamed for Rolling Stock Shortage.

General American Tank Car Corporation

Chicago, Oct. 14.

Editor Manufacturers Record:

The railroad breakdown is primarily the result of the coal and railroad strike which, of course, makes a temporary abnormal amount of business for the railroads to handle. As far as the car and locomotive companies are concerned, there is plenty of capacity in the United States for producing cars and locomotives, but in these industries, as well as all manufacturing industries that require man labor, in my opinion there is not sufficient skilled and unskilled labor in the United States at the present time. This is not a local condition, but rather general throughout the United States and can only be remedied by changes in the immigration laws.

This company's plants are not working to fullest capacity merely because sufficient labor is not obtainable, so no amount of urging on the part of railroads can help the situation, as those who have in charge the operation of car and locomotive manufacturing plants are themselves bending every effort to produce all that is possible with the number of men available.

Anything that your periodical may do to influence legislation that would bring more laboring men into the United States will be helpful.

MAX EPSTEIN, President.

Car Builders of Country Could Produce Five Times the Present Number of Cars.

Magor Car Corporation.

[Telegram to Manufacturers Record.]

New York, N. Y., October 10.

Car builders this country now producing about 6000 cars monthly. Have capacity and could produce 30,000 cars per month if they had orders and Washington took necessary action to remove embargoes and instruct railways to supply cars to transport raw materials, particularly steel and lumber. We have only small quantity new and repair orders on our books but are having difficulty in producing even these, due altogether to inability to secure delivery of steel. Would be only too pleased to take additional orders if railways would give them to us, and could increase our production at least four times if material could be secured.

MAGOR CAR CORPORATION.

Shortage of Men and Materials Seriously Curtailing Production of Cars.

The Pullman Co.

[Telegram to Manufacturers Record.]

Chicago, Ill., Oct. 13.

Because of the coal strike and consequent inability to secure materials, also due to shortage of labor, production of cars was greatly curtailed in this country during the first nine months of this year. The railway strike did not help matters and prospects today, because of shortage of material are not encouraging. We are producing fifty to sixty per cent in freight shops and sixty per cent in passenger shops. If some magical means could be discovered to supply the car shops with men and materials present production of freight cars could no doubt be increased one hundred per cent. We are not in position to comment on the locomotive building situation.

E. F. CARRY, President.

Handicapped by Labor Scarcity and Transportation Conditions.

H. K. Porter Co.

[Telegram to Manufacturers Record.]

Pittsburgh, Pa., October 10.

Our plant working full time, with force forty per cent under normal, due to scarcity of trained mechanics and temporary inability of railroads to handle in and out shipments.

H. K. PORTER CO.

Lima Locomotive Works Fully Employed.

[Telegram to Manufacturers Record.]

Lima, O., October 14.

No knowledge of capacity to which shops other than our own are being pushed. Our plant is fully employed on orders now on hand.

LIMA LOCOMOTIVE WORKS, INC.

Shops Running Fifty Per Cent.

Atlas Car & Mfg. Co.

[Telegram to Manufacturers Record.]

Cleveland, O., October 10.

Our shops are running fifty per cent and have ample room for repairing locomotives and tenders.

S. D. WRIGHT, Vice President.

Industrial Locomotive Orders Increasing.

Vulcan Iron Works

[Telegram to Manufacturers Record.]

Wilkes-Barre, Pa., October 10.

We do not build main line locomotives nor cars but we do build many industrial locomotives. Our plant is running about sixty-five per cent capacity, with order list increasing every day.

VULCAN IRON WORKS.

States Congestion Could Be Relieved if All Shops Were Pushed and Better Rates Paid on Repair Work.

Southern Iron & Equipment Company

[Telegram to Manufacturers Record.]

Atlanta, Ga., Oct. 13.

We believe building and rebuilding of cars and locomotives could be doubled if all shops were pushed to their fullest capacity. If railroads would pay profitable rates, private shops could handle repairs of their equipment and soon place equipment in shape to relieve congestion. Most private shops have lost money on railroad car and locomotive repairs and are therefore unwilling to take on additional work on the basis offered by the railroads. We are running about one-third capacity and about one-fifth of our possible capacity normal.

SOUTHERN IRON & EQUIPMENT COMPANY.

Summary of Reports from Railroads.

Recapitulating the figures furnished by the above railroads, it appears that there have been delivered, are under delivery or are under order for the railroads from which reports have been received 101,212 freight cars, 586 passenger cars and 1482 locomotives.

A summary of the reports made by the foregoing railroads is as follows:

Athlison, Topeka & Santa Fe Railway Co.:—2500 refrigerator cars; 2000 box cars practically all delivered, or for delivery in 1923. 5150 freight cars; 59 locomotives. Authorizations for capital expenditures, including 288 miles of tracks, \$67,074,076.

Atlantic Coast Line Railroad Co.:—15 passenger coaches; 2000 freight cars; 44 miles double tracking and enlarging of passing yard and station tracks.

Baltimore & Ohio Railroad Co.:—2000 steel freight cars; 100 steel passenger train cars; 100 freight and passenger locomotives, also additions and expansions for trackage facilities.

Boston & Maine Railroad:—24 switching locomotives; 100 steel passenger train cars; 25 milk cars; rebuilding and modernizing existing freight equipment; have expended approximately \$5,000,000 for ten years for increased and improved facilities and equipment.

Chicago, Rock Island & Pacific Railway Co.:—2500 freight cars, 50 all steel passenger coaches; 40 locomotives; also large budget authorized to improve the roadway and track.

Central of Georgia Railway Co.:—500 ventilated box cars; 160 flat cars; 2 mountain type locomotives; 8 mikado type.

Chesapeake & Ohio Railway Co.:—1870 40-ton box cars; 500 40-ton ventilated box cars; 200 40-ton stock cars; 50 30-ton refrigerator cars; 1500 57½-ton hopper bottom gondolas; 1500 57½-ton flat bottom gondolas; 30 all steel coaches; 8 all steel combination cars; 25 all steel express cars; 5 all steel diners; 58 locomotives. \$12,500,000 to be expended on expansion of tracking facilities at various places along the line.

Chicago Great Western Railroad Co.:—1677 freight cars; 500 box cars; 20 locomotives; 12 passenger cars.

Chicago, Burlington & Quincy Railroad Co.:—5500 freight cars; 95 passenger cars; 40 locomotives; \$30,000,000 on second tracks, yard and terminal enlargements, etc.

Chicago & North Western Railway Co.:—4000 freight cars; 70 locomotives.

Chicago, Milwaukee & St. Paul Railway Co.:—2500 50-ton steel gondola cars; 3500 40-ton steel box cars; 500 steel automobile cars; 25 mikado locomotives, besides rebuilding 5000 steel underframe cars and considerable expenditures for increasing terminal facilities, tracks, etc.

Erie Railroad Co.:—5000 new cars; 60 locomotives.

Florida East Coast Railway Co.:—175 refrigerator cars; 30 tank cars; 10 caboose cars; 10 passenger train express cars.

Illinois Central Railroad Co.:—5000 freight cars; 65 locomotives. Have spent \$21,000,000 annually for past five years for additional cars and engines and improved and additional facilities.

Lehigh Valley Railroad Co.:—35 new freight locomotives; large number of cars and locomotives repaired at outside plants. \$25,000,000 spent in 1921 for maintenance of equipment.

Louisville & Nashville Railroad Co.:—2000 new freight cars; 25 passenger cars; 70 locomotives; 32 miles second tracks, new yards for facilities involving aggregate expenditure of \$23,340,000.

Missouri Pacific Railroad Co.:—46 heavy type mikado freight engines; 4 mountain type passenger engines.

Nashville, Chattanooga & St. Louis Railway Co.:—1000 freight cars; 15 all steel passenger cars; 15 locomotives.

New York, New Haven & Hartford Railroad Co.:—Several millions of dollars being expended for various improvements in physical property and additional power.

Norfolk & Western Railway Co.:—6000 70-ton all steel hopper coal cars; 1000 50-ton box cars; 7 all steel dining cars; 30 malt engines; 12 mountain type passenger engines; 4 electric freight locomotives, also rebuilding 500 all steel hopper cars.

New York Central Lines:—20,000 freight cars; 325 locomotives. In addition have made heavy repairs to more than 40,000 freight cars.

Pennsylvania System:—15 passenger locomotives; 100 freight locomotives; 3 electric locomotives; 100 latest type cabin cars. Conversion of large number of freight cars from 50 to 70 ton capacity, also additional track laid at various points, and freight facilities and yards improved and extended.

Philadelphia & Reading Railway Co.:—2000 coal cars; 1000 steel gondolas; 100 steel coaches; 25 consolidation freight engines.

St. Louis-San Francisco Railway Co.:—2500 all steel self clearing hopper coal cars; 1200 steel underframe steel superstructure box cars; 300 stock cars; 14 steel passenger cars; 35 mikado type freight engines; 15 mountain type passenger engines.

Union Pacific System: 4500 box cars; 3300 refrigerator cars; 80 locomotives.

American Business Men Enthusiastically Commend President Harding and Attorney General Daugherty on Their Ship Prohibition Ruling.

THE suggestion in the MANUFACTURERS RECORD last week that business men who believe in the enforcement of the Prohibition law should express direct to President Harding and Attorney-General Daugherty their commendation of the position which they have taken in regard to the elimination of alcoholic liquors from American ships and from foreign ships within the three mile limit of our coast line, must evidently have stirred up a lively interest among our readers, for we are in receipt from a number of them of copies of telegrams which they sent to the President. Among these telegrams and letters which have been furnished to the MANUFACTURERS RECORD are the following:

Mr. S. F. Bowser, Chairman of the Board of Directors, of the S. F. Bowser Company, manufacturers of Fort Wayne, Ind., writes:

"I herewith enclose you a copy of a telegram to President Harding. Our President and Attorney-General should have the hearty and unqualified support of the nation, and we are glad to contribute our influence to the utmost."

The telegram to President Harding was as follows:

"I want to tell you that all of the executives and managers of our great institution join with me in thanking Almighty God that our worthy President is standing four-square for the Prohibition Law and that where our flag waves prohibition must be respected. Also your position as to foreign ships is most heartily endorsed."

Mr. John W. Sibley of the Birmingham Clay Products Co., wired the President:

"As a former President of the Birmingham Chamber of Commerce and General Sales Manager of the Birmingham Clay Products Company and a Democrat, I wish to cordially commend the action of your administration through the order of Attorney General Daugherty in deciding that no ship which flies the American flag can violate the Prohibition Law, and that no foreign ship can bring intoxicating liquors within three miles of our coast. May the God of our Fathers bless and guide you in all things."

From C. C. Stoll, of the Stoll Oil Refining Co., Louisville, Ky.:

"I want to add my word of commendation to the very proper and courageous position which you and your administration have taken in that ships which fly American flags may not violate the Prohibition Law, and that foreign ships may bring no intoxicating liquors within three miles of our coast."

"I believe it can be truthfully stated that the moral forces of this city and state are determined behind you in this attitude. Of course, there will be adverse criticism. That is to be expected, but you have back of you in this matter the best that is in the United States."

"I am expressing the same sentiment to Mr. Daugherty, the Attorney General."

From Edward L. Thomas, President of the Thomas Grate Bar Company, Birmingham:

"Your determination to have all people, including our ships on the high seas, obey our Prohibition Law specifically, and all other laws as determined, gives you a place with the American people, South, North, East and West that you could not enjoy with any other policy."

"We are delighted at your wisdom and statesmanship, and expressed courage of your convictions of duty."

From Charles Thaddeus Terry, of Merrill, Rogers & Terry, counsellors at law, New York:

"May I express to you with the utmost enthusiasm and hearty accord my great appreciation for the action taken in connection with the epoch-making decision that no ship flying the American flag can violate the nation's laws (the

particular matter being Prohibition), nor can any foreign ship violate the law which forbids the transportation of intoxicating liquors within the territory of the United States."

"The vital importance of maintaining respect for all laws, which has been somewhat put in jeopardy by the flouting of the Prohibition Law, has been apparent to all, and I am sure that an overwhelming number of our citizens are applauding you, as I am, for your determination to enforce the law, and for the courage which you are displaying in that behalf."

"I have the honor to convey to you my utmost respect and admiration."

Mr. Terry also wired Mr. Daugherty as follows:

"I have the honor to convey to you my highest admiration and respect for the clarity, courage and timeliness of your decision with reference to the enforcement of the Prohibition Law on ships, whether American or foreign, entering our ports. The respect for all of our laws which had been weakened in these latter days by the flouting of the Prohibition Law, and our attempts to enforce them, has now received a most emphatic and encouraging check, and I give you the credit which is your due for worthily and ably presenting the question, and its due and proper solution in your fine opinion."

"Believe me, with most cordial personal regards, and highest commendation for your action in this respect."

From R. M. Downie, Secretary of the Keystone Driller Company, Beaver Falls, Pa.:

"All friends of law and order are rejoicing at the way you are upholding the Eighteenth Amendment, on sea and land. The moral forces of this great nation, and of the world, are behind you."

"As manufacturers we are particularly gratified that you are standing out against that noisy part of the press and people who would pave the way for a return to rum sale. Keep the flag clean, and God bless you."

Mr. Downie also wired the same sentiments to Mr. Daugherty.

From M. V. O'Shea, The University of Wisconsin, Madison:

"I wish to express my profound appreciation of your decision to the effect that no ship flying the American flag will hereafter be permitted to violate the Prohibition Law, and that intoxicating liquors cannot be brought into American ports on foreign ships. Of course, there will be violent opposition to your decision from vested interests and from individuals who have become addicted to the use of intoxicating liquors, but I am confident that most of the people of this country, regardless of their personal habits, will support you and uphold you in your decision. The fear which is expressed by some persons that American shipping interests will be seriously interfered with because of this decision is unfounded, I believe. While doubtless there will be a few individuals who will not travel on American ships because they cannot secure liquor, still I think many more persons will be induced to travel because you have decided that the Prohibition Law must be observed on ships that fly the American flag."

From R. B. Benjamin, President of the Benjamin Electric Manufacturing Co., Chicago:

"I wish to express my profound appreciation for the position your administration has taken with respect to requiring obedience of the law from vessels within the three mile limit of our shore, whether American or foreign."

"You will naturally have a great deal of opposition from certain forces, and they will make a lot of noise about it, but the moral forces in this country are back of you in this action. While they may not be heard as loudly as the other forces I believe they can be relied upon to back you up in this action. Certainly nothing is more important in this country than the enforcement of laws, and if the laws are not right their proper enforcement will soon reveal the fact."

"I trust that no backward step will be taken."

To Mr. Daugherty, Mr. Benjamin wired:

"I greatly appreciate the decision which you made that

vessels within the three mile limit of our shores cannot carry intoxicating liquors in violation of our national law. This was a very sane and proper decision and in line with the best interests of the country.

"You will have the support of the moral forces of the country, which while not as out-spoken as the opposition nevertheless are important when it comes to the ballot or defense of our country. Naturally you would have the opposition of those interested in the sale, directly or indirectly, of intoxicating liquors, and they are always very loud in their protests against anything that in any way tends to limit or lessen their commercial activities in that direction.

"I am a firm believer in the obedience of the law and its enforcement."

From A. W. Smith, President Brandon Cotton Mills, Greenville, S. C.:

"You are certainly to be congratulated for the stand you have taken with reference to the traffic of liquor on ships which fly the American flag. You will always be held in higher esteem by every proper thinking man and woman in this country for your act.

"It will always be a great blessing to our working people, if the liquor traffic can be stopped in any way."

And to Mr. Daugherty:

"I want to add my profound appreciation to the many others that you have, no doubt, received, for the stand you have taken with reference to ships bearing the American flag carrying liquor. If we can only stop the traffic of liquor, it will be a great blessing to our country, and especially to the working men."

From J. D. Eggleston, President of Hampden-Sidney College, Hampden-Sidney, Va.:

"The position taken by you in reference to the sale of intoxicants on American ships, and on foreign ships entering our ports, is very heartening, and will meet the approval of an overwhelming majority of the people of this country.

"You have more than once stated the issue clearly as to the importance of law enforcement, and this action backs up your words with deeds."

From Henry S. Dulaney, a leading business man of Baltimore:

"Your ruling in favor of upholding the law of the land not only on American ships but on all ships coming within the three mile limit will be received with approval by the friends of law and order in the nation. It is a brave stand and one upon which I wish to sincerely congratulate you."

And to Mr. Daugherty:

"I congratulate you on the ruling made in favor of law and order regarding our own ships as well as those of foreign countries coming within the three mile limit. Your stand shows the Government means business. It shows that the law must be respected by all. I heartily congratulate you on what you have done to maintain the law in this country."

From Max F. Meyer, Ph. D., Department of Psychology, University of Missouri, Columbia:

"That the highest executive officers of our Government have the splendid courage of applying plain logic to the Prohibition Law as affecting the ships touching our ports, ought to be a source of great satisfaction to every patriotic American."

From Wm. R. Nicholson, Jr., Secretary, The Law Enforcement League, Philadelphia, Pa.:

"Permit us to advise you of a resolution adopted by our organization that we express to you our deep appreciation of your noble stand and attitude toward law observance pertaining to the liquor laws, as affected by the ruling of Attorney-General Daugherty.

"Those who go to make up the moral forces of the world will stand strongly back of you in your endeavor to advance civilization as against the forces of evil, represented by the world's liquor interests. There is only one possible way to enforce the Prohibition measure, that being to remove from office any who are not in sympathy with the law they are sworn to protect and obey. Any reasonable disloyalty demands removal from any official position. If you will strongly declare that your position represents such an attitude, as well as appeal to the public to take a stand against the growing rebellious element against our laws, particularly aspirants for office in the Republican party, such a step will be respected by all clear-thinking, decent followers of the flag.

"This organization represents a large army of law-loving and law-abiding citizens deeply concerned for the welfare of all who pledge full and complete co-operation as well as offer

heartiest congratulations for the Christian service you are rendering."

And to Mr. Daugherty:

"At our weekly meeting a resolution was adopted, namely that we express to you our full and complete appreciation of your recent position relative to necessary protection to the American flag. Your decisive stand in this matter commends the full endorsement of all the moral forces of the world, particularly in view of the fact that you speak for the great United States, representing as it does almost unlimited power, demanding either respect and adherence or possibly necessary action to create respect for the American flag and the Constitution of the United States.

"We congratulate you upon your action and desire not only to express our deep gratitude but to advise you that as representing a large army of law-loving and law-abiding citizens, we pledge you our full support."

From Dr. Henry Louis Smith, President Washington and Lee University, Lexington, Va.:

"Please permit me to commend most heartily the recent decision of the Attorney General of the United States that no American ship can violate the Eighteenth Amendment to our Constitution, and especially that no foreign ship can violate our Prohibition Law by transporting liquor within our boundaries.

"I regard the adoption of the Eighteenth Amendment as the greatest forward step taken in the direction of Christian civilization since the abolition of slavery, and I heartily commend your courageous action against our howling politicians and law-breaking liquor dealers in putting a stop to such open defiance of our laws."

From Joseph W. Marsh, President Standard Underground Cable Co., Pittsburgh, Pa.:

"I believe that all who favor the maintenance of law will hail with deepest satisfaction the decision of Attorney General Daugherty and the courageous action of your Administration, with reference to the sale of intoxicating liquors on ships flying the American flag, and also forbidding foreign ships to bring such liquors within three miles of our shores.

"That action, and the enforcement in all other ways, of our National Prohibition laws, will be an incalculable blessing to our people, and while there will be criticism and opposition by those opposed to the enforcement of these laws, you may be sure that the best sentiment of the country stands with you in the action taken."

From David D. Lupton, David Lupton Sons Co., Steel Products, Philadelphia, Pa.:

"I wish to add my heartfelt thanks to those you are receiving from law abiding citizens all over this land, upon the heroic stand you and your administration have taken in forbidding the sale of liquor on American ships.

"The usual cry of disaster will be raised and all the power of evil in rum and politics will assail you, but rest assured that the rank and file of law abiding citizens are behind you and will uphold you in your courageous stand for the right."

From W. U. Follansbee, President Follansbee Brothers Company, Pittsburgh, Pa.:

"We desire to express appreciation of your administration's decision that ships flying the American flag, no matter where located, are subject to our national Prohibition Laws as same are applied on land and that no foreign ships can bring intoxicating liquors within the three mile limit. We feel that these decisions are not only right and just from a moral and economic standpoint but are particularly to be commended as showing no favoritism in proper enforcement of the law."

A similar expression was sent to Mr. Daugherty.

From F. Fosdick, President Fitchburg Steam Engine Co., Fitchburg, Mass.:

"As one who has been interested in the Temperance question for fifty years, I wish to express my sincere appreciation of the position taken with regard to the sale of liquor on our vessels and on foreign vessels entering our limits.

"It is right, it is just, it is Christian."

Also to Attorney General Daugherty:

"I cannot express my feeling of appreciation as to the decision with regard to the sale of liquor upon American ships and foreign ships entering our waters. It is in line with the desire of the country, and in accordance with the laws of the country."

From Maj. A. D. Reynolds, Bristol, Tenn.:

"Allow me to congratulate you and our Attorney General,

Mr. Daugherty, on the most righteous decision for the protection of our homes that has been made since the proclamation of our independence.

"All patriots are with you, regardless of our political affiliation. Nothing short of the enforcement of the 18th Amendment will perpetuate our freedom and save our nation.

Senator Arthur Capper writes the MANUFACTURERS RECORD: "I was glad to have you send me copies of your telegrams to President Harding and Attorney General Daugherty commending their splendid stand in barring liquor from American ships wherever they may be and from foreign ships within the three-mile zone of this country, and I desire to assure you of my heartiest sympathy with all you have said.

"The action of the President and the Attorney General is thoroughly American and it will be applauded by a tremendous majority of the people of this country, who have deplored sincerely the spectacle of open bars on ships flying the American flag and in direct violation of the letter and spirit of our national prohibitory law. I am confident that the position of the President and the Attorney General will be upheld by the courts."

Mr. A. B. Farquhar, President A. B. Farquhar Co., Limited, York, Pa., writes to the MANUFACTURERS RECORD as follows:

"As a believer in morality and obedience to law, you have my sincere thanks for your telegrams to the President and the Attorney General. I wish you had added your thanks to the Attorney General for his order restraining sabotage on the railroads. The proof of its wisdom was shown in the fact that the crimes ceased after the order was issued. I have already in several communications endorsed the action of the President and Attorney General in their determination to see that the laws are obeyed."

From Dr. Wm. Goodell Frost, President Berea College, Berea, Ky.:

"None of your public acts have given greater joy to the substantial men and women of this nation than your recent courageous course in the enforcement of Prohibition. This is the sure and easy way. It is easier to kill a wolf than to put a collar on his neck."

In sending this copy of his letter to the President, Dr. Frost writes the MANUFACTURERS RECORD as follows:

"Incidentally, I wish the churches would put on an old-fashioned campaign for total abstinence. The men who buy liquor should be persuaded. The public of today never heard Gough or the other real men give the reasons for total abstinence. The physiological instruction in public schools is not sufficient, and not fully carried out."

BRINGING MEN AND MONEY SOUTH—THE VIEWS OF A LEADER IN THIS MOVEMENT.

G. L. Miller & Company,
Real Estate First Mortgage Bonds,
Hurt Building,

Atlanta, Ga., October 9.

Editor Manufacturers Record:

We found your "Blue Book of Southern Progress," was of great interest and advantage in making up statistics and compiling data for our general Correspondents' Division. The widespread ignorance concerning the South is so flagrant that the task of educating Northern investors is a huge one and at times seems almost too great. Southern chambers of commerce, trade organizations, Southern welfare associations, business houses, trade journals, merchants, individuals and persons in every walk of life should catch the vision of this Southern progress and start an advertising campaign and propaganda extolling the advantages of the South until it will ring in the ears of every reader in the land who has "eyes to see and ears to hear."

There is an enormous work to be done in the South of this character and, under the able leadership of the MANUFACTURERS RECORD, I predict an enormous increase in the number of friends North of the "Old Line." We are bringing thousands of them into the South. Where they put their pocket-books, you will find generally their hearts, so, in pulling a share of their funds South, we are bringing these people into this country in great numbers, and the work is merely in its infancy. The job ahead is a big one.

G. L. MILLER, President.

FORD TO FIGHT FOR MUSCLE SHOALS.

HENRY FORD has not abandoned his plan for the development of Muscle Shoals, and in a dispatch from Detroit to the Wall Street Journal he is quoted as follows:

"Henry Ford denies current reports that he had become disgusted with the delays that his offer for Muscle Shoals had been subjected to during the last session of Congress and had decided to drop all efforts to secure a favorable vote on the project.

"Any statement that I have lost interest in Muscle Shoals or am contemplating a withdrawal of my offer is simply a lie," he said emphatically. "I've reached the point where I'm tired of saying that people who continually misrepresent my position in regard to Muscle Shoals are merely mistaken. Instead of that I'm going to say they are just plain liars. We are in the Muscle Shoals project to stay. We haven't started to fight. Mr. Mayo, our chief engineer, has been at Washington for a few weeks, more as a source of information than anything else, helping the congressional committee all that he could in explaining our proposition and generally making more complicated engineering problem plans, but outside of that we have done nothing.

"The opposition has been printing pamphlets by the thousands, lining up great and politically powerful business interests, who feel they might be injured if we produced a cheap aluminum or fertilizer, to exert their influence in every way against our proposition. We have let them play their string out.

"When the time comes we will do our fighting—if it is necessary. And if it does, some people will know they have been in a fight."

It is a well-known fact that the fertilizer interests, the aluminum interests and some others are bitterly opposed to Mr. Ford, wherein they are making a very serious technical blunder for their own welfare. The fertilizer interests profess to believe that Mr. Ford cannot make cheap fertilizers. If they really believed that they would have no cause whatever to oppose his plan. If he cannot produce and sell fertilizers at a lower cost to farmers than the present price, then the fertilizer people have no ground of complaint whatever. If the Aluminum Company of America is afraid of the possibility of Mr. Ford producing aluminum at a lower cost than that company is making this product and is fighting them on that ground, it is selfishly standing in the way of the broad development of the South for its own financial profit, and that is a position which no great industry, dependent upon the progress of the country for its prosperity, can afford to take.

The water power interests are also fighting Mr. Ford, and they too, of course, are doing it from a selfish standpoint, but it would seem that they have a little better fighting ground than either the fertilizer people or the aluminum people, but they are helping to stand in the way of a development which if carried out according to Mr. Ford's plans would bring about enormous prosperity to a large section of the South, and thus to the country. The time has passed when great business interests can afford selfishly to fight public improvements which would inure to the betterment of the country merely because these improvements would interfere with their own individual prosperity.

We are glad, therefore, that Mr. Ford proposes to fight, and to fight vigorously and aggressively, and we take it from the statement that he makes that he will be able to say to the opponents of his plan, "Lay on, MacDuff, and damned be he who first cries hold, enough."

TWO MISTAKES.

THE big stock dividends declared by the various subsidiaries of the Standard Oil Company indicate that the public has been charged entirely too much for oil products, and also that the officials of these companies have lacked the vision to see that the influence of their action will intensify the socialistic, bolshevistic agitation throughout this country to an extent which at the moment cannot be quite measured.

ONE MORE COURT DEFEAT FOR FEDERAL RESERVE STATE BANK-WRECKING SCHEME.

Atlanta, Ga., Oct. 16.

[Telegram to Manufacturers Record.]

I am advised that Judge Cochran, of the United States court, Eastern District of Kentucky, today rendered opinion giving the Farmers and Merchants Bank of Catlettsburg, Ky., a complete victory in the suit for an injunction against the Federal Reserve Bank of Cleveland, in its par clearance case. The Catlettsburg bank officers deserve unstinted praise for making a single-handed fight for fundamental rights.

L. R. ADAMS, General Secretary.

National and State Bankers' Protective Association.

A BANKER COMMENDS 2 PER CENT GOVERNMENT BONDS FOR CIRCULATION ISSUE.

MR. I. H. NAKDIMEN, President of the City National Bank of Fort Smith, Ark., writes to the MANUFACTURERS RECORD commending the suggestion which we made in our issue of October 5 to the effect that the Government should issue one billion dollars of 2% bonds with the privilege of circulation issue by banks and says, "I fully agree with you on that". Mr. Nakdimen incloses copies of letters written in 1920 to the Federal Reserve Board and to Mr. Louis T. McFadden, Chairman of the Banking Committee of the House of Representatives. In a letter dated June 18, 1920 Mr. Nakdimen urged upon Mr. McFadden that the way in which to place Liberty bonds at par and to relieve "the deplorable financial condition now existing in the country" would be to amend the Federal Reserve Act and authorize the Federal Reserve Bank to issue Federal Reserve notes against Liberty bonds instead of against commercial paper.

LAW VIOLATION MUST BE STOPPED.

A LEADING business man of Bristol, Tenn., in a letter to the MANUFACTURERS RECORD, referring to the recent editorial denouncing the action of some business men of that town in buying bootleg whiskey through an introduction by a banker to the bootlegger, writes:

"I saw in our paper some time back a mention of some of the facts that you bring to light, but as I heard no more about it I thought it must be a sensational imagination, and to my surprise I find it is too true, with the exception that there were not quite so many implicated. I read your editorial before our Baraca Sunday School class and stated that I endorsed all that you said in regard to the same and that if it was a fact that any officer or employee of our banks was guilty of the charge and the bank did not dispose of him, that they were not safe to handle the public's money. This morning, after ascertaining that the report was largely true, I went before the Ministerial Association and had one of the ministers read your article, which seemed to meet with their approval, holding that such conduct could not be too strongly condemned. They seemed to know the bank employee who introduced the gentleman bootlegger, so I went to the President of the bank who employs him to show him the MANUFACTURERS RECORD and to see what he had to say about it. He picked up the RECORD on his desk and said that the matter had come before the directors and that out of courtesy to the cashier of the bank, who was absent, they adjourned the matter until he returns, which will be in a few days, when the matter will be thoroughly investigated."

If all the people in this country who are opposed to the violation of law will act as promptly as this business man did, it will be possible to rid this country of the bootlegger and the bootlegger's accomplice, the one who buys from him.

ARE RUSSIA AND GERMANY WORKING IN COLLUSION?

THE Eastern Review in its last issue received in this country says:

"The North-China Daily News has an uncanny habit of unearthing documents disclosing the inner working of Russian policy in Asia. Many years ago it set the chancelleries of the world agog by publishing the text of the Cassini convention, a document which changed the whole aspect of Asiatic politics and compelled Great Britain to move quickly in order to defend her interests in India and elsewhere in Asia. The aftermath of this convention and its corollary, the Li-Lobanoff secret alliance between China and Russia, was the Anglo-Japanese alliance, the Russo-Japanese war and the series of events which culminated in the twenty-one demands followed by the diplomatic blunders which nearly precipitated war between Japan and the United States.

"Once again our contemporary publishes an epoch-making document, purporting to be the full text of the secret military convention between Soviet Russia and Republican Germany. As in the case of the Cassini convention, the authenticity of the document is in doubt, but it bears the earmarks of truth. In the event of its authenticity being established, history will undoubtedly repeat itself and Great Britain again make quick moves to counteract it, and unless we are greatly mistaken, the first of these will be a renewal of her discarded understanding with Japan.

"By the terms of this secret agreement, Germany will equip, arm and entirely reorganize the Russian army. The German general staff will furnish the red army with the latest inventions in poison gas warfare, will build and equip new munitions and air craft factories, and the reds are not to interfere with the work of German officers and specialists on the new munitions factories on the border of Afghanistan.

"No competent observer can fail to see that the reported secret convention is the logical aftermath of the Soviet's first surrender to Germany, and is strictly in line with the news that has dribbled out of both countries for the past three years."

The information given in the foregoing from the Far Eastern Review is now confirmed by dispatches from Europe, which show that not only have Germany and Russia entered into a treaty, but that Turkey is included in the deal.

Mr. Moreton Frewen, the well known political economist of England, sends the MANUFACTURERS RECORD an interesting letter from Lieut. Colonel Repington in which attention is called to the fact that the Russo-Turkish Alliance of last year has been followed by the Russo-German Treaty, and that the known tendencies of Austria, Hungary and Bulgaria compel England to recognize the solidarity among its lately vanquished enemies, and a clearly defined intention of bringing about by successive stages the revision if not the destruction of the peace treaties with the aid of the Soviet Government of Moscow.

Colonel Repington says the Bolsheviks, prompted by Germany, and the Kemalists in second place, recognized early the leverage which they might exercise against the Western Powers by an appeal to Mohammedan sentiment throughout Mohammedan regions, and they left no stone unturned to excite against England, France and Italy, the Mohammedan people under their sway. The propaganda has been carried on for three years in the Allied countries or their dependencies, and everywhere in the underground workings has been seen the hand of the Soviet.

The Germans wish to bring back the Turk into Europe in order to revive for their benefit the old war combination. The Turk once in Europe, the designing Germans, as admitted by Von Sanders, count on the 200,000,000 Mohammedans of the world to keep the Western Allies fully employed in protecting their own possessions.

"It is not," says Colonel Repington, "a program for today or tomorrow, but for a quarter of a century ahead."

"The Congress of Oriental peoples which is to meet next year under Kemalist patronage is part of the picture and it will endeavor to unite all the Orient against the West in

a common front, a consummation to which the Germans are looking with great satisfaction. Turkey is to serve as a link between Germany and the whole of Asia. Turkey can count on Russian support as Russia can count on German. Those who have traveled through Eastern Europe of late find the indications of this great conspiracy wherever they go."

Colonel Repington's letter illustrates in considerable detail the meaning of this situation to England and France, and no American can study the outlook without feeling that the world is coming to a parting of the ways between civilization and barbarism, and the struggle will be whether barbarism or civilization shall survive.

One of the best informed and most farseeing educators in England in a personal letter to the editor of the MANUFACTURERS RECORD says: "Things are moving on apparently to a vast cleavage between the Christian and Mohammedan worlds. I wonder if Americans know the appalling things that happened at Smyrna. The Turks are just raging to get over the Bosphorus and get after Christians."

Lloyd George in his address last Saturday rightly stated the case when he said that England had stood in the breach to save Europe from the onrush of the Turks. Standing thus England has perhaps for the time being saved all European civilization, for if once the Turks can reenter Europe in power, the rise of the Mohammedan world against Christianity will stagger the world with the awful carnage, of which only the barest hint is seen in the destruction of Smyrna. What the Turks did to that city and to the tens of thousands of Christians gathered there, they are longing with a blood lust to do to all of Europe.

The Almighty alone can see what is ahead of the world, but in the light of this situation disarmament of America or of England would be a crime against humanity and Christianity itself.

THE CURSE OF PRIORITIES AND GOVERNMENT CONTROL OF TRANSPORTATION.

WHenever the Government undertakes to run transportation it makes a mess of it. Coal has no more right to priorities than food-stuffs, and food-stuffs have no more right to priorities than other lines of traffic. It could easily have been foreseen early last spring by any intelligent business man that there would be a breakdown of transportation this fall, and that whether the threatened strike was put into effect or not there would be a shortage of coal by reason of inadequate transportation, if no other reason developed. The MANUFACTURERS RECORD persistently, early last spring, urged every coal consumer to lay in as large a portion of this season's supply as possible, and to do it at once, but with that disposition to put off till tomorrow what should be done today, a large proportion of coal consumers of the country failed to see and heed the warning and thus the country is now faced with an inadequate supply of coal and with a breakdown of transportation.

Food is rotting on the ground because it cannot be shipped. The producers of this food are just as much entitled to a fair measure of transportation facilities as are the consumers of coal. The whole system of priorities is wrong. It interferes with every business operation. It halts business development. It enables railroad managers who have failed to keep up with the needs of the country to excuse themselves before the public on the ground that they can only haul the things which are permitted by priorities.

If the Government had kept its hand off of the whole situation and simply enforced law and order the railroads would have been compelled to increase their facilities if they had to buy new rolling stock through receivers' certificates, and the country would lose less if this were brought about than it is losing through the breakdown of business due to the railroad breakdown. The sooner the Government takes its hand

off the throat of transportation and of business generally; the sooner it unchains business activities the sooner shall we develop our transportation facilities and get business interests on a sound basis. It were better for the country that most of the railroads went into receivers' hands and were rebuilt on receivers' certificates, thus guaranteeing an expansion of railroad facilities equal to the needs of the country, than for the business to be halted year after year as at present.

The methods now prevailing simply tend to develop the idea of government ownership, but government ownership would be more disastrous even than what we are now facing. As radical as the suggestion may be, as strongly as we hope that it may not have to be brought into effect, the time has come when the railroads must increase their facilities as rapidly as it is possible for existing locomotive and car building plants to increase the supply of rolling stock without regard to temporary loss of income to bondholders or stockholders, if they cannot accomplish this in any other way.

EUROPEAN TEXTILE SITUATION AS SEEN BY GOVERNMENT EXPERTS.

IN its survey of foreign trade, the Department of Commerce reports that the textile industry of Europe is uncertain. The cotton trade of England has not improved and the exchange situation affects the German cotton manufacturer. The textile industries of France are working full time and an optimistic tone prevails; Italy and Switzerland have orders for several months ahead.

"In the Netherlands, as in Italy and Switzerland," the survey says, "mills are well occupied, although slackness may develop in the winter months. Belgium's textile mills are operating at about an 80 per cent capacity, and although conditions are better than a year ago new difficulties are causing anxiety."

"Polish cotton mills have been running at capacity for a long time, and many are now operating two 8-hour shifts. While the spindleage is approximately 900,000, last reports indicate that the basis of production is just about double, due to overtime operation. The chief reason for this activity lies in the steady export trade, which is estimated at 30 to 40 per cent of total production. Very little business is being done with Russia, most of the Polish product finding its way into the Balkans and Germany. Raw-cotton stocks are readily available, some American shippers maintaining stocks at Bremen or in Lodz against which spinners draw according to their requirements. The Polish textile industry is noteworthy in that the larger textile interests combine spinning, weaving, bleaching, dyeing, napping, and other operations, an exceptional condition for Europe."

"Austria has been operating full time, but economic and financial upheaval is causing a material slackening. It is estimated that half of the cotton yarn spun in Austria is consumed within the country, the remainder going for export to near-by markets. Of cotton goods Austria imports five times as much as it exports, and mills are therefore confronted with the keenest competition from foreign sources."

"Czechoslovakia, because of relatively high currency value and high internal prices, can not at present consume or export mill production, and therefore mills are in an extremely difficult situation, many operating only two or three days a week. The belief is prevalent, however, that as domestic economic difficulties diminish the cotton industry will improve."

FOLLOW THIS EXAMPLE.

Women's Christian Temperance Union of Rhode Island
Providence, R. I., October 5, 1922.

Editor Manufacturers Record:

Enclosed please find check for \$35, for which please send us 100 copies of "The Prohibition Question."

We have distributed 100 copies, and now want more copies that we might place one in the hands of some more of our public officials and prospective candidates for the General Assembly of Rhode Island.

LEAN W. SPARKS.

TIME TO BE DONE WITH GOVERNMENT COMMISSIONS FOR POLITICAL EFFECT.

IN a conversation recently with one of the Government officials most vehement in his demand that a fact-finding coal commission be appointed, a gentleman expressed his surprise that money should be expended in such an undertaking when there was already, in the Government files, a whole library of information on the coal industry. "It has," he said, "been investigated and inquired into more than any other industry in the country." "You mistake the point," answered the official. "Our object is not so much to gather information, which is already available, as in a dramatic way to concentrate public attention on the facts and so compel the public to serve as juryman in the case."

What the nation is seeking, and what the world is seeking, is the evolution of a formula that will prevent or discourage strikes. It is a new policy, a new theory, a new principle that is being sought. No harm to seek it, for necessity is the mother of invention, but those who hope to find a solution as by a miracle, are more credulous than sensible. Not so does industry move. It is a slow process toward peace, in industry or in statesmanship, and not so easily is the goal obtained. It is, nevertheless, important to apprehend that a commission which would be nothing but a publicity agency is necessarily a commission devised to suggest a palliative and not a cure. It is, therefore, in a large way, a failure before it even begins work.

Of all the delusions that persist to plague mankind and chain him to inertia none is more vigorous than the assumption that men of affairs, practical men, are too involved selfishly to be able to approach a business problem with fairness or perspicacity. It is an ancient habit to turn to armchair philosophers, to lawyers, to the academy and the breeding places of theory for "commissioners." The record of no vaster failure is written in all history than that which tells of solutions to grave problems thus attempted. No man in the fields of culture and civilized achievement stands higher than the scholar and student, whose dreams of today have become the realities of tomorrow, but race horses are never good in the plow, and there is a place in economic discussion which detached minds can no more fill than can the passenger motor car perform the work of a truck. Practical problems need the genius of practical men to mold them into solutions.

Coal, an uninterrupted supply of coal, means more to the great manufacturing industry than to any other element in our economic cosmos. A representative of manufacturing on the commission would have brought to his task the overmastering determination of the whole industry behind him to find some safe and sure way out of the existing muddle. But there is no representative of manufacturing on the commission, no representative of the railroads, no representative of the shipping industry, no representative of anything except general interests. The personnel of the commission, in other words, has not been bred on fertile ground.

John Hays Hammond is the only man of the seven named who could be considered a man of affairs and a practical expert, his eminence as an engineer being beyond question. But even his prestige was won in foreign fields and his reputation was made in gold, not coal. It would be difficult to think of former Vice President Marshall as a practical man, valuable though his counsels have been to the nation. In Judge Alschuler, of the United States Circuit Court, we have an exponent of the lawyer's point of view. Clark Howell, editor of the Atlanta Constitution, presumably is expected to represent the public and to give color to the commission's publicity. Dr. Devine is a lecturer on social work and has had wide experience in what may be termed the cultural aspects of civilization. Charles P. Neill, a former

Commissioner of Labor, is a statistician and dealer in information rather than an industrialist. George Otis Smith, of the United States Geological Survey, is a scientist and a geologist of splendid attainments. Such is the personnel of the Commission.

The highest praise we have heard of it is that it has enough technical knowledge and experience to give an impartial opinion. Impartial opinion! Why, that was to be assumed from any commission that might be named. And what would the impartial opinion be about? Technical treatises on the quantity of coal in the ground are not sought. The problem is not one of production, but rather one of wages and thereafter of transportation. With all respect, we wonder if it will be possible within a few weeks for the commission to learn even the fundamentals of transportation in its relation to the coal problem, for there does not appear to be on the commission even one man who has made any study of transportation. It is true that the President was limited by law in his selection of the commissioners, but it would have been possible, nevertheless, in the Who's Who of Achievement to have discovered individuals whose own accomplishments and wide practical experience would have eminently suited them for the work at hand.

It should be remembered that the commission is charged to consider the feasibility of nationalization of the coal mines. That is a pretty dream which has whetted the appetites of doctrinaires. Those with experience have been urging for centuries that the Government which governs least is the best, but in every generation a mighty cry goes up from the ne'er-do-wells and the failures that the great industries be turned over to them, in the name of government; and many times that cry has been answered, to the grievous suffering of whole nations. Surely, experiments during the recent war should have convinced any observant man that the certain road to ruin is in governmental conduct of any business. Yet there is at least one man on the commission whose intellectual ships have been sailing on socialistic oceans, voyaging to Utopia, for a long period. It would be surprising, therefore, if the commission does not present at least a minority report favoring nationalization.

We are unable to see that, after all the trouble of last summer, anything substantial has been or will be gained. The Government arbitrarily intervened and prevented a real settlement. It now turns over one of the gravest problems of the age to an ill-equipped commission for a solution. Palliatives! Compromises! Squirmings-out! These are the substitutes offered the harassed public, instead of fundamental solutions. The coal crisis is simply postponed, to arise again in far more difficult form. There is nothing left but for the coal industry itself to organize and prove itself superior to governmental interference.

Meantime, manufacturers, despairing of any early and permanent relief, are turning more and more to coal substitutes for power. That is their answer to inefficiency and muddling. They go where waterpower is, they change from coal to fuel oil, from steam to the internal combustion engine.

Gary, Schwab, Warfield, Topping, Verity, George Crawford, Charles Cattell or dozens of others who know every detail of coal mining, coal handling in all the varied ramifications of this industry, if given authority, could do more in one week toward solving the coal problem for the good of consumers, miners, and producers than a dozen political commissions could accomplish in a dozen years, or than the present commission could accomplish in a century.

Aerial Poisoning of Cotton Boll Weevil.

By C. A. WHITTLE, Atlanta, Ga.

At Tallulah, La., the United States Department of Agriculture has a laboratory for the study of cotton boll weevils. Tallulah was selected as a site for the laboratory because the region around looked like a boll weevil paradise—and it is. In this favoring habitat, it was reasoned that if the weevil could be whipped, the methods employed would be equal to the job of whipping it anywhere.

To the Tallulah region with its bayous, jungle growth, typical cotton plantations and starchless summer temperature, B. R. Coad, entomologist and his scientific assistants came and buried themselves in their great task of solving the problems of boll weevil control. While many are summering in the mountains or at the beach, these boll weevil investigators are humped over in the blistering cotton fields, in quest of more and more knowledge of the habits of the insect.

Now and then these scientists have arisen to proclaim a discovery and each bit of knowledge thus acquired they have employed to perfect their designs in circumventing the weevil.

Out of the study and toil of years has come a poison known as calcium arsenate and also machines by which the poison can be properly applied. These are the implements of boll weevil warfare.

Success has been won. The cotton farmer is the recipient of immeasurable benefits from the discoveries made in solving this insect control problem which is admitted to be one of the most difficult ever encountered by entomologists.

But the scientists are still exploring, seeking to find if improvements can be made on existing means of combat.

When the scientific world learned that R. B. Coad had requisitioned aeroplanes for use at the Tallulah station there



AEROPLANE IN ACTION.
Poisoning the Boll Weevil at Scotts Station, Miss.

was some wondering if Dr. Coad had not succumbed to the strain and if he were not manifesting a tendency to flightiness.

He has learned to ride the airy steed and has flown above the clouds long distances to direct public demonstration in poisoning boll weevils, but no evidence of other flightiness has shown up in Dr. Coad's conduct.

The writer witnessed a demonstration of boll weevil poisoning from an aeroplane directed by Dr. Coad at Scott's Station, Miss., to which place his party had driven in two planes from Tallulah.

The plane swung to a position a few feet above the cotton field, released a stream of dust that suddenly shot forth and ducked with great commotion into the cotton field impelled downward and sideward by atmospheric currents created by the propeller of the aeroplane.

Almost before one could catch his breath the aeroplane had crossed the field, clipped off its tail of dust and was circling for a return. The calcium arsenate it left behind was boiling

among the cotton stalks and spreading over a strip from thirty to forty yards wide.

Directly there was another whirr and in an incredibly short time another strip of cotton thirty to forty yards wide was seething with this poison dust.

The acreage that a plane could cover in an hour would be enormous if the field was long and the turns of the aeroplane were few, or if all the cotton farms in a community could be swept across at each straight away flight.

"Is there anything practical about it?" was asked of Dr. Coad.

"If the poisoning operations were organized on a community basis," he said, "the aeroplane could be used to advantage. We find that the dust is applied better from an aeroplane than by the present dusting machines, for the reason that the agitation of the air by the aeroplane propeller breaks the poison dust into fine particles, and creates movements of air that thoroughly distributes the poison over all parts of the cotton plants.

"On account of breaking up of the calcium arsenate into very fine particles it is possible effectively to treat a field with half the amount of poison now required to do effective work with the ordinary dusting machines."

Dr. Coad thinks that the flying machines have taught how to increase the efficiency of all the ground machines, in that the flying machines have demonstrated the benefits of strong air currents. Hence the Tallulah laboratory is considering how the blowing power of ordinary dusting machines may be increased and it is thought that compressed air may help solve the problem.

As experiments with flying machines continue, observations are being made to improve their efficiency. The hopper holding the dust is to be extended to the left so the dust will be released where the propeller creates the strongest agitation and the greatest downward current.

The experiments at Tallulah and previous tests with dusting orchards, seem to give promise of a day not far distant, when cotton growers, orchardists and truckers will contract with an aero-poisoning company to take over their fight against insects and disease of crops.

England Spending Millions to Produce Long Staple in the Sudan.

Manchester, England, October 2.—[Special.]—Cotton users throughout the world will be glad to hear that the irrigation scheme in the Sudan is to be proceeded with. Messrs. Pearson & Son, contractors, of whom Lord Cowdray is the head, have obtained the contract, and the work is to be started immediately. The contract will amount to nearly £4,000,000. The scheme includes the construction of a big dam across the Nile extending nearly two miles in length, about 150 miles South of Khartoum. It is estimated that about 7000 men will be required for the work and the project will not be completed in less than three years. The works were started in 1913 but were stopped on account of labor and financial reasons due to the war. Now that Sea Island cotton is almost lost to the industry, English spinners especially are looking to the Sudan to make up the deficiency. It is estimated that the whole scheme will cost nearly £12,000,000. It is believed that the land which will be brought under cultivation for cotton will produce 80,000 bales per annum of long staple material.

Chas. Bearden & Clarence Jones have been selected as architects for a six story \$150,000 structure under consideration for the Tennessee Electric Power Co., Chattanooga, Tenn.

Significant Signs of Activity South.

Extensive Additions to Public Utilities of Baltimore.

To meet the constantly increasing demand for gas and electricity the Consolidated Gas, Electric Light & Power Co., of Baltimore, has an extensive expansion program under way, representing an expenditure of millions of dollars. At the Westport Power Station extensions are being made to the boiler house, switch equipment and operating department. Additions and extensions to the Spring Gardens' gas plant will necessitate an additional investment of about \$750,000, making it one of the largest gas plants in the country.

A new office building and garage is being erected adjoining the Monument street property of the company. Near Baltimore street an extension of the McClellan Alley sub-station is being made. At the Penn street sub-station an extension of the switchboard room is under construction. New work in the electric distribution systems this year will cost many hundreds of thousands of dollars, and in addition to the big sums required for new work on overhead lines a large sum will be expended in putting wires and cables under ground. During September the number of electric meters installed surpassed all previous records.

Extension and development of gas distribution systems for 1922 will cost approximately \$750,000.

Two New Hotels for Louisville Planned—To Cost \$3,500,000 and \$2,000,000 Each.

A \$3,500,000 hotel will be erected in Louisville, Ky., according to an announcement made last week by J. Graham Brown, president of W. P. Brown & Sons Lumber Company. It will be 15 stories high, and contain 600 rooms each with bath. Preston J. Bradshaw of St. Louis, Mo., is the architect. Work will begin early in November, and the structure is expected to be completed by October 1923. The building will be of face brick, trimmed in stone and built on a reinforced concrete frame.

Another hotel is planned for Louisville by Louis Seelbach and associates who will erect a 600 room structure to cost \$2,000,000 on a site recently purchased.

\$300,000 in Improvements to Spartanburg Public Utilities.

The South Carolina Gas & Electric Co., which recently took over the operation of the light, power and railway plant at Spartanburg, S. C., has announced plans for improvements to cost \$300,000. The hydro-electric plant at Gaston Shoals on the Broad river will be improved: additions will be made to the steam plant and gas plant at Spartanburg, and extensions will be made to both the gas main and the electric distributing lines.

Apartment House Contract Let at Cumberland, Md.

The Alfred H. Dyhre Construction Company of Charleston, W. Va., have been awarded contract for the erection of an apartment for R. K. Swayne of Cumberland, Md. Holmboe & Pogue, of Clarksburg, are the architects. It will be a five story brick structure containing all modern improvements.

Will Install Electric Steel Making Plant.

A complete electric steel making plant will be installed by the Mobile Pulley & Machine Works, Mobile, Ala. Initially it will have a capacity of 20 tons daily, with arrangements for increasing to 35 tons daily. The furnace will produce a high quality steel, made from poor grades of scrap iron.

To Erect \$200,000 Club Building at Memphis.

Maurice J. Sullivan, 1701 Carter Bldg., Houston, Tex., is the architect for a \$200,000 club building to be erected by the Knights of Columbus in that city. It will occupy a site 75 by 150 feet and be of reinforced concrete construction.

\$300,000 City Hall for Lexington.

Plans have been completed for a \$300,000 city hall to be erected at Lexington, Ky. Frank L. Packard of Columbus, O. has submitted the plans to the city building commission.

Building Active at Clearwater, Fla.

Clearwater, Fla., issued building permits last month valued at \$178,000. In addition \$240,000 is being expended for a new city hall, paving and water and sewer extensions. The Baptist church will begin work shortly on a structure to cost \$125,000.

\$300,000 Lodge Building for New Orleans.

Construction of a \$300,000 building for the New Orleans, La., Lodge No. 477, Loyal Order of Moose will begin in the near future, according to Judge J. Willis Pearson. A building committee has been appointed and a site is to be selected and plans drawn.

Erecting Bank and Office Building.

J. M. Gillette and P. M. Kerr, 203 Swanee Bldg., Tulsa, Okla. are erecting a \$200,000 bank and office building, 75 by 100 feet and nine stories high, after plans by Vansiclen & Edelsvard, architects. H. S. Thayer is superintendent of construction.

\$125,000 Hospital for Guilford County, N. C.

The Palmer-Spivey Construction Co. of Augusta, Ga. has been awarded contract for the construction of the Guilford County, North Carolina hospital at a cost of approximately \$125,000. Work will be started immediately, and probably completed within 170 days.

To Begin Construction on \$1,000,000 Apartment at Dallas.

The Efficiency Apartment Corp. expects to begin work within two weeks on a \$1,000,000 apartment house in Dallas, Tex. It will be 11 stories high and contain 135 apartments, in addition to a cafe, billiard room, ball room, gymnasium, roof garden, barber shop and a garage with accommodations for 150 cars.

\$650,000 Apartment House for Birmingham.

The H. M. Malony Co., of Birmingham, Ala., plan the erection of an apartment house to cost \$650,000. J. E. Sallie, of Birmingham, is the architect. The structure will be 130 by 196 feet, 7 stories high, of fireproof construction. The plans are now being prepared and bids will be requested in the near future.

12,000,000 Pounds of Missouri Honey in 8 Months.

According to E. A. Logan and Jewell Mayes, of the Federal State Crop Reporting Service, the production of honey in Missouri between January 1 and September 1 amounted to 12,000,000 pounds. The average production was 60 pounds per hive. At an average price of 20 cents per pound the honey was worth \$2,400,000. It is said that they are approximately 200,000 colonies in the State.

Baltimore Adding to Its Industries.

The largest plant investment of any month in the past two years in Baltimore was reported for September by the Industrial Bureau of the Board of Trade, George C. Smith director. Last month five new industries and five expansions of established plants to cost \$5,450,000 were announced. During the month building reached a new high level, and the value of permits for the first nine months of 1922 was in excess of the corresponding period last year. New building operations to be started before the close of 1922 will further swell the program.

The Pendulum Swings in Boll Weevil and Cotton Cultivation.

[Due to the ravages of the boll-weevil, the cotton farmer has been forced to adopt improved methods of cultivation, using more and better fertilizer, and poisoning the weevil with calcium arsenate at the proper time. The cotton crop is more uncertain than formerly and if the farmer is to be successful his protective methods must be adopted with a full knowledge of the many problems involved; his efforts must be along right lines. These points are brought out in the following forceful article by D. B. Osborne, who has long been identified with the movement for better methods of agriculture in the South. He was for many years in charge of the Atlanta office of the Armour Fertilizer Works, and is a former member of the Soil Improvement Committee of the Southern Fertilizer Association.—Editor Manufacturers Record.]

By D. B. OSBORNE, Atlanta.

It would be rash to hazard a prediction as to the future of cotton production under boll weevil conditions, and yet it seems the part of wisdom to look certain palpable facts in the face and endeavor to anticipate both the direction and extent of changes that are inevitable.

There is a wide divergence of opinion as to the true status of the boll weevil. It is regarded by some as a malignant pest and by others it has been proclaimed a "blessing in disguise" and a monument has been erected to it in a Southern town. It is true the claimants of a "blessing in disguise" did not qualify their statement by saying whether or not the blessing was spiritual or temporal. If they intended to claim the boll weevil to be a visitation to try the souls of men spiritually and to teach them patience and resignation under adversity, it is truly a wonderful "blessing" for it offers unlimited opportunities for the daily and hourly practice of these virtues. But, these claimants could not have had this idea in view because they say a blessing in disguise, and if viewed in the light of a spiritual blessing or disciplinary measure, it is not in the least disguised.

Whether or not it is a temporal blessing, the future alone can tell. The boring of the boll weevil is scuttling the cotton ship. It is costing the farmers hundreds of millions of dollars every year. These vast sums are lost,—utterly destroyed—the same as if the cotton had been baled and burned, for the expense and effort at production has been made and there is nothing to show for it. As a temporal blessing therefore, it must be confessed that at the present time it appears to be a distinct failure or else its disguise is superlatively perfect.

However, there are three propositions to which everyone must agree whether they regard the boll weevil as a "malignant pest" or a "blessing in disguise" and it is possible that from this common ground we may evolve some good reasons why, in the light of certain eventualities and possibilities, the boll weevil can be considered a very possible temporal blessing in some respects. The three propositions are:

1st. The boll weevil has increased the cost per acre of growing cotton.

2nd. The boll weevil has made the cotton crop decidedly more precarious and uncertain.

3rd. It will be impossible for the incurably careless, ignorant or improvident farmer to grow cotton successfully under boll weevil conditions.

Increased Cost Per Acre.

The increased cost per acre in cotton production is caused by a number of factors chief among which are:

Intensive Cultivation: This means hard work and quick work and more of it and the planting of a pedigreed seed best adapted to the character of soil to be planted.

Intensive Fertilization: This means the use of more pounds of fertilizers per acre of a quality containing an abundance of those elements of plant food required by the crop of which the soil to be planted is deficient.

Control of the Boll Weevil: This means poisoning with calcium arsenate at the proper time, at the proper intervals

and by the proper methods: fundamentally along the lines promulgated by the United States Department of Agriculture, but always controlled by an intelligent consideration of local conditions.

Increased cost per acre does not necessarily connote a high cost per pound of lint cotton. About eighty per cent of the expenses of the farm are of like nature to taxes and insurance and can be considered overhead expenses in that they are not affected up or down by the size of the crop produced. Hence the yield per acre and not the cost per acre is the controlling factor in the cost per pound. Farmers generally do not recognize this fact but practice economy to the very limit of frugality in an effort to keep the cost per acre down and give little if any consideration to methods that will increase the yield per acre and thus reduce this overhead expense on the pound basis. This system is "penny wise and pound foolish."

It is not intended that the farmer will be prodigal in his expenditures, but if the boll weevil will force the farmer to adopt methods of cotton production, even if they do increase the cost per acre, that will give him a maximum yield per acre at a minimum cost per pound, the boll weevil will prove quite a temporal blessing. Low cost per pound is the vital factor for this reason: At a low cost per pound the farmer stands to lose less money on a low market and to make more money on a high market while at a high cost per pound the farmer stands to lose more money on a low market and to make less money on a high market. Profit is the farmer's goal and profit or loss is regulated and controlled by the cost per pound and not the cost per acre.

Cotton Crop More Uncertain.

While the boll weevil has forced the farmer to increased labor, better methods and greater expense, it has also increased the uncertainty of the ultimate outturn of the crop. As between the boll weevil and the cotton crop, the boll weevil has every advantage in respect to weather conditions and easily adapts itself to new environments. Good cotton weather is good boll weevil weather: very hot weather or a drouth sufficiently prolonged and intense to destroy the weevil will also damage the crop; very wet weather causing cotton to take on a luxuriant growth, delays the maturity of the crop, interferes with the cultivation and prevents the poisoning of the crop and is decidedly to the advantage of the boll weevil in affording it succulent food, ample time and ideal quarters for propagation.

The boll weevil is here and it is here to stay: there is no way to escape a reckoning with it. It does not feint or threaten to strike,—it delivers the blow. The cotton field is no longer a place for the farmer merely to work and sweat in,—it is a place for him to fight in. The cotton field is now the battlefield between the farmer and the boll weevil and the cotton crop goes to the victor. If the farmer does not destroy the boll weevil, the boll weevil will, financially, destroy the farmer who persists in the attempt to grow cotton. This is as certain as "death and taxation." That the farmer can successfully grow cotton under boll weevil conditions is incontestably true, but it will depend upon the method of

cultivation and the means of defence adopted by the intelligent farmer.

The incurably careless, ignorant and improvident cotton farmer is down and out under boll weevil conditions. If he wants to own so much as the "shirt on his back" he must cease his attempts to grow cotton. The money put into his cotton acreage is money lost the day he spends it: his cotton acreage a mere breeding place for boll weevils. Such a farmer cannot but be a disappointment to himself, a liability to his friends and a nuisance to his neighbors who are harassed by the weevils he propagates.

The efforts and methods of the average farmer prior to the advent of the boll weevil are inadequate to the production of cotton under the present conditions. The essential change in methods will be from extensive operation to intensive cultivation. More pounds per acre must be the end sought and not as in the old days, more acres to the plow. This will necessarily change the basis for credit.

The Basis for Credit.

Heretofore the number of acres to be planted to cotton very generally formed the basis for credit,—the more acres planted the more credit given. The general reputation of the individual farmer and his record of past performance were of course considered, but no restrictions were placed upon him as to methods of cultivation or fertilization. To follow this plan under boll weevil conditions is to invite disaster and will prove suicidal to any business.

The successful credit man under boll weevil conditions will not want to know how many but how few acres to the plow will a farmer plant to cotton: he will have little regard for past performance and will seek to control the agricultural methods to be followed by those farmers seeking credit. He will insist upon a careful preparation of the seed bed: upon a careful selection of a pedigreed seed best adapted to the soil: to be planted: upon the liberal use of a high grade fertilizer on every acre planted: upon persistent cultivation of the crop as permitted or required by seasonal conditions: upon the early start and continued and persistent use of calcium arsenate as a means to protect the investment from destruction by the boll weevil. All of these things it is necessary to do for the making and protection of the cotton crop under boll weevil conditions and no one of them can be ignored without seriously jeopardizing the credit investment.

Total credits are not reduced: the farmer has merely concentrated his efforts and investment on fewer acres, flanked the boll weevil on all sides as it were, so that he can properly police his cotton territory and wage a successful fight such as would not be possible on a larger acreage.

Cotton Acreage

The records show that if the boll weevil is left to its own devices and desires, the cotton planter may possibly make as much as a bale of cotton to twenty acres. This is hardly worth the picking, ginning and baling. The watchful care and attention it is necessary to bestow on each and every acre of cotton to warrant the expectation of a successful crop under boll weevil conditions, makes it absolutely necessary for the farmer to reduce his cotton acreage. Ten acres to the plow under normal conditions of weather, labor, etc., is about the limit for successful cotton growing and the farmer planting this acreage must be somewhat of a glutton for work. Seven acres to the plow is about the limit for the average farmer.

Upon this relatively small acreage must be concentrated all the time and labor and fertilizers that had heretofore been expended upon a much larger acreage. The investment per acre is thus doubled and trebled. The old yield of a bale to three or four acres will not give a profit on this increased expense. Granting that this concentration of effort on fewer acres will surely and proportionately increase the yield per acre to a handsome profit, the question yet remains, "Who

will get the crop,—the farmer or the boll weevil?" There is little satisfaction and less profit in growing a big crop and gathering a little crop or none at all.

Calcium Arsenate.

Having done all that it was necessary to do to produce a profitable yield per acre, the wise and thrifty farmer is going to take all necessary precautions to insure its safety. His investment is considerable: his plans for its protection should be well laid and adequate.

Government experts of the Department of Agriculture and thousands of farmers in this field have proven the efficacy of calcium arsenate as a poison for the boll weevil and a protection to the cotton crop. When and where it has been used intelligently and in accordance with instructions, it has proven most destructive to the boll weevil and insured the making of the cotton crop. There have been some few failures traceable to the fact that the farmer did not follow instructions.

"Do It Right or Not at All."

This is sound advice given by the Government experts. If it is done right the crop is protected and the amount expended for calcium arsenate is an investment that brings an enormous percentage of profit on the investment. If it is not done right, the farmer loses not only his crop but in addition the amount expended for calcium arsenate and the labor of applying it. The results are as diametrically opposite as are the north and south poles. "Do It Right or Not at All." Sounder advice was never given. Every farmer should repeat that sentence at the beginning and end of every furrow during the plowing and planting of his crop until he gets his mind, soul and body saturated with the idea. No better advice can be given the farmer than "Apply calcium arsenate right or, don't plant cotton at all."

The Pendulum Swings.

It has taken twenty odd years for the boll weevil pendulum to swing from Texas to Virginia. It has brought with it great financial loss: it has demoralized the farmers of each state when first they experienced its fell destruction and the apparent blighting of their hopes for the future. Fortunately the American farmer is a man's man, not easily discouraged or overcome by adversity, and in each case he has quickly regained his mental equilibrium and started a fight to the finish for the protection of his crop and the future prosperity, comfort and happiness of himself and of his family.

It is to be hoped that this pendulum will start on the return swing promptly and it is much more than possible that it will carry toward Texas a message of confidence born of a knowledge of battles fought and won and of the means employed, offensive and defensive for the complete routing of the enemy.

In Georgia and the Carolinas, as far back as the memory of the oldest farmer extends, the use of commercial fertilizers on all crops and on the cotton crop in particular, has been universal. The present generation of farmers in Georgia and the Carolinas all their lives have been accustomed to put money in the ground—fertilizers—to insure the making of the cotton crop. It is but a short step to put money on the plant—calcium arsenate—to protect and save from certain loss the money they have expended in making the crop. They do not have to be taught or driven to do this; it is in exact line with their education and former practice.

This is not the case with the farmers of Texas and other Southwestern states. The dwindling of their average yield of cotton per acre clearly proves the deficiency of plant food in the soil, and their soils now appear to have about reached the very limit of exhaustion for profitable cultivation. Still, the Western farmer appears inclined to further exploit the soil rather than put money in the soil in the shape of commercial fertilizers to the end and with the certainty that he

will take more money out of the soil than he put in, in increased crops.

Calcium arsenate costs money. A farmer must have in prospect a yield of cotton that will warrant the expense of saving it. It costs the same to apply calcium arsenate on an acre of cotton whether the yield will be 150 pounds of seed cotton or 1500 pounds. Poor, thin, overcropped soils will not produce a crop large enough to stand the expense of applying sufficient calcium arsenate to save it from destruction by the boll weevil.

It is up to the Southwestern farmer to make two investments if he is to avoid defeat,—one in fertilizers to insure the making of a crop that is worth the expense of saving, and the other in calcium arsenate that will protect his investment in fertilizers and his profits therefrom. On the return swing of the pendulum to Texas it will carry with it a complete proof of the soundness and efficacy of this system. If the boll weevil should thus be the cause of inducing the Southwestern farmers to adopt methods of intense cultivation and fertilization for their cotton crop that will give them a maximum yield per acre at a minimum cost per pound, the boll weevil will prove itself to be quite a temporal blessing to the farmers of the Southwestern states.

[From Baltimore Daily News.]

FACTS AND FIGURES ABOUT THE SOUTH

Book of Progress Gives Interesting Information
WONDERFUL GROWTH SINCE '65

Great Natural Wealth Backed By Energy And Intelligence

[The Baltimore Daily News has compiled from the Blue Book of Southern Progress, published by the Manufacturers Record, some of the outstanding facts about the South. Though these facts have been repeatedly published by us they cannot be reiterated too often as it is only "by line upon line and precept upon precept" that they can be driven home.—Editor Manufacturers Record.]

The South with about one-third of the population and area of the country had \$6,885,000,000 invested in manufacturing as reported by the Census of 1920. This was nearly three times the amount of capital invested in manufacturing in the entire country in 1880, and within 13 per cent of the capital invested in manufactures in the rest of the country in 1900. The value of its manufactured products was over \$9,808,000,000. The South has over \$837,870,000 invested in cotton factories, which is four times the capital of the country's cotton mills in 1880. The South is now consuming about 60 per cent of the cotton taken by all American mills.

In 1920 the South produced \$2,285,000,000 worth of mineral products, or \$295,000,000 more than the whole country produced in 1910. The South with one-third of the mines and quarries of the country increased their number since 1910, while the rest of the country outside of the South had a decrease.

After the Civil War.

After briefly sketching the achievements of the South before and immediately following the Civil War period, the Blue Book of Southern Progress, published by the MANUFACTURERS RECORD, presents a comprehensive statistical review of the South's matchless resources and development during the last forty years. The facts and figures thus presented show the marvelous strides made by the South in spite of overwhelming odds it had to overcome in rising from the devastation and bankruptcy following the Civil War. Though totally bankrupt in money and partially bankrupt in men after 1865, the South was never bankrupt in that initiative

and energy and zeal which has made of this section a mighty empire, the development of which enriches the whole nation.

The South has the largest sulphur deposits known in the world and produces about three-quarters of the world's supply. It has the greatest gas fields known in the world. The South has over half of the oil reserves of the country, and is producing 57 per cent of the country's petroleum. Since 1910 the number of petroleum and natural gas wells in the South increased by 195 per cent, while the increase in the rest of the country was but 24 per cent. The South has over a third of the coal area and three-fourths of the coking coal of the country. In 1920 the South produced about 26 per cent of the country's coal, which was 98,000,000 tons more than the output of the whole country in 1880. The South's iron resources are in keeping with its coal reserves.

The South is producing about 50 per cent of the country's lumber and has about 40 per cent of the forest area and about a quarter of the standing saw timber of the United States.

Half the Lumber.

Since 1908 the water-power development of the South has increased from 991,941 horse-power to over 2,250,000. The developed water-power of the South is estimated at over 8,000,000 horse-power.

Construction contracts in the South last year, including contemplated construction projects some of which were carried over into this year, amounted to nearly \$1,000,000,000.

The value of the South's farm crops last year was \$2,544,000,000 or \$330,000,000 more than the aggregate value of all agricultural products of the United States in 1880. The total value of the South's agricultural products is nearly two-and-a-half times the value of the country's agricultural products in 1880. The South with about 36 per cent of the country's farm acreage produced over 41 per cent of the country's crop values in 1920. The value of Southern farm property in 1920 was \$21,699,000,000 or \$1,259,000,000 more than the value of all farm property in the United States in 1880.

The South in 1920 spent \$224,180,000 on commercial fertilizers, or nearly twice as much as the whole country spent in 1910.

Railroad Mileage.

The South's 91,169 miles of railroad nearly equals the railroad mileage reported for the entire country in 1880.

The South spent on highway improvements through State highway departments \$150,000,000 in 1921, and it is estimated that over \$400,000,000 will be spent in 1922.

The value of exports through Southern ports last year was over \$2,294,000,000, or more than a third of the value of exports of the United States, and \$519,000,000 more than the total value of the exports of the United States in 1910.

National bank resources in the South in 1920 were \$4,678,000,000 and deposits \$2,666,000,000, which about equaled the resources and deposits of all national banks in the country in 1900. Other bank deposits in the South in 1920 were \$3,447,000,000, compared with \$4,400,000,000, the amount of deposits in all banks, excepting national banks in the rest of the country in 1900.

The South is spending on public schools over \$204,225,000, which is about 5 per cent less than the entire country spent in 1900, and \$24,000,000 more than the rest of the country spent at that time.

The estimated true wealth of the United States in 1880 was about \$43,642,000,000, while the estimated true wealth of the South in 1920 was approximately \$70,000,000,000, or probably double the wealth of the entire country forty years ago.

250,000 Fruit Trees in One Arkansas Tract.

Fort Smith, Ark., Oct. 7.—[Special.]—E. F. Rice & Son have a tract on the Rogers-Springdale road on which are planted 250,000 fruit trees in addition to several thousand grape vines. Many of these trees are grown for Northern nurseries, the longer season making it possible to produce sturdy trees in a much shorter time than in the North.

Contract Let for \$250,000 Hospital.

St. Louis, Mo., October 14.—H. O. Hirsch & Co. have been awarded the general contract for the new Liberty Hospital to cost about \$250,000. Plans were prepared by Helfensteller, Hirsch & Watson, who will also supervise the construction. The structure will cover an area 40 by 200 feet, and contain 80 rooms for patients.

Eugene Meyer Jr., President War Finance Corporation, on Financing Agricultural Products.*

FEDERAL BANKING SYSTEM HAS INCREASED DESIRABILITY OF PAPER ELIGIBLE FOR REDISCOUNT AND DECREASED DESIRABILITY OF NON-ELIGIBLE PAPER—A DANGEROUS SITUATION.

We all recognize the desirability of maintaining the liquidity of the assets of the Federal Reserve System. The view seems to prevail in some quarters, however, that paper, in order to be liquid must have a maturity of sixty or ninety days. That view was largely imported from Europe, and particularly from those portions of Europe which are primarily industrial and commercial rather than agricultural. The fact that the Federal Reserve Act permits the rediscounting of agricultural paper with a maturity of six months, is only a partial recognition of the need for a differentiation between the limits for agricultural and for commercial paper.

A sharp distinction should be drawn between short-time bank paper and the question of the liquidity of the security that underlies bank paper, long or short. For instance, the six and nine months' loans on wheat and cotton, made by the War Finance Corporation to co-operative marketing organizations, are as liquid, from the point of view of the security, as 90-day paper representing advances to merchants and manufacturers. Long-time paper may be more liquid as to security than short-time paper. It may not be as well adapted as an investment for all of a bank's funds, representing deposits payable on demand; but the experience of the War Finance Corporation has demonstrated that, when adequate financing for the time needed is provided, staple agricultural commodities are liquidated in an orderly way and, in fact, the liquid quality of the security is enhanced by a more gradual marketing process.

During the past year it was clearly shown that commercial paper depends for its liquidity on the orderly buying of the manufactured goods, and that this orderly buying, in turn, depends largely upon a purchasing power based upon the orderly marketing of our basic agricultural products. Indeed, if our late experience established any definite differentiation between the liquidity of commercial paper and of paper based upon staple, non-perishable agricultural commodities, properly warehoused, it established the fact that the latter is decidedly more liquid under adverse conditions than the former. At no time were such commodities so entirely unmarketable as were certain lines of manufactured products upon which the so-called liquid commercial paper was based.

While it is important to safeguard the Federal Reserve System by proper restrictions regarding eligible paper, it is equally important to safeguard the business of the country by avoiding discrimination against paper which may properly be considered as eligible. The System gave us banking elasticity in a way that was long necessary, but it also created a difference between different kinds of good paper. Before the System was established paper was judged on its merits. It was good or bad according to the worth of the maker and the security back of it. There was no distinction between different kinds of good paper, provided the banker or the investor was willing to lend for the length of time it was issued. But now good paper is classified either as good rediscountable paper or good paper that is not rediscountable; and bankers are considering their loans, even where they have no intention of using them for rediscount purposes, with regard to the requirements of eligibility.

We are too apt to think of the Federal Reserve System only

* Extracts from address of President Meyer, before American Bankers Association.

as adding a new facility and additional resources to our banking structure. But we must not overlook the fact that, while the System has greatly enhanced the desirability of eligible paper, it has correspondingly decreased the desirability of non-eligible paper, even though that paper may be satisfactory in every respect from the standpoint of security.

One of the most significant developments in the marketing of agricultural products in recent years is the growth of the co-operative movement. Through further development along this line we may expect to see a definite improvement in our whole system of distributing farm commodities.

Generally speaking, the American producer has been forced to sell his crop hurriedly and at the time of maximum supply. Within three or four months almost the entire production has passed out of his hands, though twelve months are required for its consumption. The farmer's credit matures in October or November. The merchant, who has provided him with supplies and equipment on credit, finds his own bills maturing during the same period, and presses the farmer for payment. There is a call for cash all down the line, from the correspondent bank in the city, from the country bank, and from the merchant. As soon, therefore, as the crop is harvested, it is rushed to market.

But the co-operative marketing associations are gradually overcoming this situation. In the hands of the individual farmer, his products have often been little more than an offset against debts contracted in order to carry on his producing operations. In the market of the co-operative association, they can be assembled in quantity, graded and warehoused, pledged as collateral for loans, and marketed in an orderly way. The farmer is thus relieved of the necessity of selling during the annual "low" of the market, and distribution is adjusted to consuming demand.

In the midst of the worst depression that the cotton industry has suffered in many years, it was through the co-operative marketing associations that the War Finance Corporation developed plans for extending assistance to the industry on a comprehensive scale. In the summer of 1921, when cotton was quoted at around 8 cents a pound at country points and when business throughout the cotton belt was in a demoralized condition, the Corporation made its first large loan to an association in Mississippi on 100,000 bales of cotton. The cotton was classified by the Association according to grade and staple and placed in bonded warehouses under inspection. The loan enabled the Association not only to make advances to its members for their urgent financial needs, but also to market the crop through a greater portion of the consuming year instead of forcing it on a demoralized market.

Within a week or ten days, other loans were authorized on a similar basis to cotton co-operatives in Oklahoma on 200,000 bales and in Texas on 300,000 bales. There immediately followed a radical change in the cotton situation. Confidence was restored, other avenues of credit were opened up, buyers began to resume purchases on a liberal scale, and more normal conditions, both with regard to prices and volume of business, ensued. The change was promptly reflected in improved general business throughout the South.

The success of these cotton co-operatives has encouraged the spread of the movement; and many new associations

have been organized for the handling of cotton, wheat, tobacco, rice and other staple products.

The War Finance Corporation has already authorized loans totaling more than \$110,000,000 to co-operative marketing associations to assist in financing the orderly marketing of the 1922 crops. It is expected that only a portion of this amount will be actually advanced and that the banks in the interested districts will do the major part of the financing for the associations. That is what happened last year. While the Corporation agreed to lend approximately \$84,000,000 to co-operative marketing associations in all parts of the country, on such products as cotton, wheat, rice, peanuts, and tobacco, only slightly more than \$18,000,000 was actually used. It is gratifying to note that this year the large Eastern financial centers are showing a decided interest in the financing of such associations, and considerable amounts will be made available from these centers in addition to the advances provided by the local banks.

Co-operative marketing associations have a definite place in our economic structure. If they are soundly organized and competently managed, they are bound to be helpful not only to the agricultural interests themselves but to the business of the country at large. Management is as vital a factor in the success of co-operative enterprises as any other business organization. Without good management they cannot establish and maintain that degree of confidence in the soundness of their operations which is absolutely essential. I am glad to say that the relations of the War Finance Corporation with the associations to which it has made loans have been satisfactory. They have met the requirements and regulations of the Corporation in a whole-hearted way and have conducted their operations in a thoroughly businesslike manner in almost every case. They have not only made considerable progress in bringing about more uniform grading and classification, furnishing a better basis for credit and insuring the more efficient handling of the product, but they have erected machinery which will greatly facilitate the gradual, orderly distribution of the products of their members.

Many plans have been proposed in this country for financing the farmer. Most of them have involved the theory of co-operation, but many have had little in common with the selling co-operatives as they have developed in America. They have been based rather on the principles of the European co-operative credit societies, or upon some other type of co-operative agency that has not been tried out here. There may be a place in the older and more densely settled communities, under State authorization and State supervision, for systems of credit unions similar to those that exist in Europe, but the large co-operative marketing associations, as we know them, have grown up naturally in response to our own peculiar needs and economic conditions.

Agricultural financing must be based, first of all, upon the fundamental facts of American agriculture and, second, upon the existing economic and financial structure of the country. Not to meet the first requirement is to force agriculture into the impossible position of endeavoring to make production and distribution conform to banking practices. Not to meet the second is to weaken rather than strengthen the financial machinery of the nation.

The keynote of our national policy should be the development of the usefulness of the Federal Reserve System to the maximum, new machinery should be held to the minimum. The Federal Reserve System is, and should remain, the great banking rediscount organization of this country. Nothing should be done to impair its strength; everything should be done to extend its usefulness in proper ways. It would be uneconomical and unsound—it would be the height of folly—to set up other agencies for doing the things the System can and should do. Not only that, but agriculture is entitled to

the best banking rediscount facility, and it should not be satisfied with a second-class facility, such as is contemplated by some of the measures pending in Congress, when the adjustment of the eligibility rules of the Federal Reserve System to the business involved in the orderly marketing of agricultural products would give it a first-class facility.

Paper based upon the security of non-perishable commodities should be made eligible for rediscount for the length of time necessary to market a season's product before the next harvest. It is idle to designate as speculation the carrying of agricultural commodities by farmers or farmers' organizations for orderly marketing or to say that by forcing the products out of the hands of the producers speculation will be avoided. Somebody must carry crops between seasons. We eat bread the year around, but wheat is planted, cultivated, and harvested within a few months. And so it is with other farm commodities. When an agricultural product has been produced, either the consumer must buy it and carry it until it is actually needed, or the dealer who supplies the consumer must do so, or the jobber must step between the producer and the manufacturer who ultimately takes it for distribution to the consumer, or, going back still farther, the producer himself must find ways and means of carrying his product and marketing it gradually.

Those who object to adjusting the eligibility rules of the Federal Reserve System to the time required for the orderly marketing of agricultural products seem to fear that the soundness of the System will be jeopardized. But the System suffers from friends as well as from foes—those who defend its every act and policy and who stand for the immutability of its present law and regulations may not be as harmful as those who are extreme in their denunciation of the part played by it in the collapse of commodity markets and prices. The true friends of the Federal Reserve System are those who are willing to see its machinery adjusted along sound lines to meet changed conditions, both in this country and abroad.

Florida Town Requires Additional Capital to Care for Many New Enterprises.

According to C. W. Williams, secretary of the Chamber of Commerce at Eustis, in Polk County, Florida, the town is in need of additional capital to care for its rapidly expanding activities. Mr. Williams writes:

"This town has had such a remarkable growth during the last 15 months, that the merchants and professional men have invested all their spare money in the many new enterprises here, and it becomes necessary for us to seek outside capital, and we have selected your medium to produce the desired results."

Imports and Exports Double at Houston.

Houston, Tex., October 14.—[Special.]—Imports and exports doubled here last month; inbound coastwise business showed a 150 per cent increase over the same month last year, and the number of vessels using the port a 60 per cent increase. Freight moving through the port in the first nine months of 1922 was nearly double the same period last year. Further increases will be permitted through the placing in use this month of the Manchester wharf, and improved arrangements for handling cotton.

More Tobacco Sold and Prices Higher Than Last Year

Raleigh, N. C., October 14.—Eighty-one tobacco warehouses on 39 markets in North Carolina, exclusive of the co-operative marketing warehouses, reported a total of 50,179,170 pounds of tobacco sold during last month at an average price of \$25.15 per hundred, against 48,016,170 pounds sold in September, 1921, at an average of \$21.93 per hundred. The Mebane market leads with an average of \$31.85 a hundred.

The South Carolina Cotton Convention of Growers, Bankers and Merchants.

COTTON HOLDING MOVEMENT SOUTHWIDE FOR COST PLUS A REASONABLE PROFIT.

St. Matthews, S. C., Oct. 12.

Editor Manufacturers Record:

The outstanding feature of the largely attended cotton convention by farmers, merchants and bankers of South Carolina, held at Columbia on the 11th instant, was the unanimous and enthusiastic endorsement of a resolution recommending a price of 30½ cents per pound for lint cotton, average of all grades. It was shown that the average bulk-line cost of growing cotton throughout the belt this season was 24¼ cents per lint pound; that a selling price of 30½ cents per pound, average of all grades, would give the growers only a small profit above the actual cost of production.

The convention was held under the auspices of the South Carolina Division of the American Cotton Association, and the enactment of the resolution recommending the above named price for the balance of the unsold crop of 1922, called upon the American Cotton Association to press forward a Southwide campaign to stimulate interest in the movement and urge all owners of spot cotton and the co-operative marketing associations to refuse to sacrifice their cotton at present low prices based upon legitimate supplies and demand for raw cotton, plus the high cost of growing the 1922 crop.

The following resolutions were among those unanimously passed as being necessary for the speedy rehabilitation of the cotton-growing and agricultural industries of the South:

1. The enactment of congressional legislation creating a strong Federal commission of representatives appointed from all sections of the nation to make full investigation of every phase of the cotton-growing industry and make recommendations for Federal aid and co-operation in rebuilding the industry to a normal productive basis for the future.

2. The enactment of a broad and comprehensive system of Federal agricultural finance that will relieve the farmers throughout the nation from the present inadequate and unsatisfactory system of short term commercial banking. The necessity for lower rates of interest on agricultural loans was stressed as being imperative and the valued co-operation and support of the Senatorial farm bloc was most heartily endorsed as being a most encouraging feature in securing constructive national legislation in behalf of American farmers.

3. The extensive adoption of the most practical and approved methods of boll weevil control as so far ascertained by experiments in preparation of the land; liberal fertilization; selected planting seed; intensive culture and the widespread use of calcium arsenate poisons.

4. To amend the Cotton Futures Act so as to give equal rights of buyers to those of sellers as to periods allowed for the delivery of spot cotton under such contracts and to provide for deliveries of spot cotton in futures trading at any designated concentrating market points of spot cotton in the South, instead of at local points where such futures exchanges operate.

5. To put on an aggressive campaign for small grain acreage, diversified farming and limiting the cotton acreage for 1923 to not exceeding 8 acres per plow under boll weevil conditions.

6. To seek a lowering of existing high freight rates on cotton and prohibitive rates on many staple farm products which are now so seriously affecting the business of agricultural production.

HARVEY JORDAN, Sec'y., American Cotton Association.

Bearing on the same subject President Wannamaker of the American Cotton Association writes the MANUFACTURERS RECORD:

"The Statewide Cotton Convention held at Columbia on the 11th instant was successful in every way. We had an attendance of several hundred farmers, merchants and bankers. A resolution was unanimously passed strongly urging President Harding to appoint Hon. D. R. Crissinger, Comptroller of the Currency, as Governor of the Federal Reserve Board.

The position was further taken that as agriculture has never had a representative on the Board it was plainly the intent of the law that the various geographical divisions and leading industries of the nation should be represented on the Board. While Congress has passed a law requiring the President to name a representative of agriculture on the Board, it has so far been ignored. It was further pointed out in the resolution that not only should a representative of agriculture, but also representatives of the commercial industries of the nation, should be represented on the Board and that the President was unanimously requested not to reappoint W. P. G. Harding as Governor."

Southern Firm Secures Important Water and Sewerage System Contracts in Brazil.

After many months of competition, C. A. D. Bayley & Co., of Atlanta and New Orleans, with their financial associates have concluded contracts in connection with a \$2,000,000 loan to the State of Cerea, Brazil, these contracts covering water and sewerage systems for Fortaleza, a city of 78,000 people, and the capital of Cerea. The contract was executed on October 5 by the vice president of the State of Cerea and C. A. D. Bayley, president of the company, who writes the MANUFACTURERS RECORD as follows:

"The water will be piped from a dam forty miles distant. The dam was constructed by the Federal Government of Brazil for irrigation purposes, and the Bayley contracts will cover a filtration and disposal system.

"In addition the contracts cover large municipal buildings and other public improvements. The work is to commence at once.

"The State of Cerea is one of the most important North-eastern states of Brazil. It occupies an area of 64,000 square miles and has a population of 1,300,000. The capital, Fortaleza, has 78,000 inhabitants. The chief industries of the State are agriculture and cattle breeding. The Federal government is now expending \$35,000,000 through two English firms and an American firm, in extensive irrigation work and harbor work in the State.

"The Bayley Company and its associates anticipate that the closing of this contract will be followed by additional contracts that are under negotiation. It is now actively investigating these other contracts through its representative in Brazil, Mr. James W. Billingsley, consulting engineer of New Orleans, La., who is returning from South America where he has made engineering investigations in connection with the contracts. These provide that all materials and supplies shall be bought in the United States or Brazil. All freight shipments must move in American ships of the Lloyd-Brazilliero Line, owned by the government of Brazil, but it will be necessary to employ skilled workers, engineers, superintendents, etc., from the United States.

"Mr. Robert Morris, Jr., President of the Austin Machinery Corporation of Louisiana spent several months in Brazil and was instrumental in bringing the Bayley Company and its financial associates into contact with the officials of the State of Cerea.

"Mr. Idelfonso Albano, who has been in the United States since July, in connection with the Bayley contracts, is the vice president of the State of Cerea, Mayor of Fortaleza, and director of the Commercial Association of Cerea. He is one of the authorities on Brazilian cotton and has been on an extensive tour of the Southern states, and on the conclusion of the Bayley contract, he will return to Brazil. Mr. Albano was particularly impressed with the aggressive spirit and was very appreciative of the hospitality shown him through the Southern states."

The Knoxville Power & Light Co., Knoxville, Tenn., has under way an extensive expansion program involving the expenditure of about \$200,000. New paving, relaying rails and similar improvements are a part of the work now going on.

A Suggested Plan for Relieving Inadequate Transportation Facilities by Increasing the Number of Open-Top Cars and Placing Them Under Control of an Equipment Corporation.

Collins Granite Co.,

R. F. D. No. 4, Danville, Va., October 4.

Editor Manufacturers Record:

Evidently this country is now entering upon an era of great industrial activity, which nothing but gross political blundering can prevent; but there is one factor wanting that is now greatly retarding the forward movement and which will continue to do so for several years to come unless dealt with in an entirely different way from those half-way measures which have been employed for the past decade. That factor is, adequate transportation facilities.

Of course this shortcoming has been rendered more acute by the recent strike, but making all allowance for that calamity, the fact remains that for the past ten years at least, despite the large expenditures which have been made and the great effort that has been put forth, the transportation facilities over a large section of the United States and particularly of the South have failed to keep pace with the growing needs. Each burst of renewed activity has found the railroads less able to meet the demands upon them, and today there is no real prospect that they will ever overtake these demands except during periods of abnormal depression, unless a radical move is made along some new line of procedure.

The railroads need more locomotives, more freight cars, better terminal facilities, more track scales, coal chutes, round houses, ballast, rails, ties, etc., world without end, and need them now, and there is no money in sight with which to satisfy these requirements. So it has come about that the railroads are operated at a small fraction of their possible efficiency with the result that we must all pay a heavy tax on this lack of efficiency, in the shape of freight rates that even at their high levels do not produce enough revenue to permit the railroads to expand to meet the growing needs.

A vicious cycle has been set up which needs must be broken into abruptly. Here is a suggestion to this end which may present some workable features.

Since it is generally recognized that the present condition of the railroads is in a large measure due to ill advised governmental interference through the Interstate Commerce Commission, it would seem that we might look to the Government to help them out of the ditch and by so doing help everybody in the United States that buys anything that has to be moved by rail; and who is not included in this category. For the Government to guarantee any railroad bonds or loan the railroads any more money might help temporarily but such plans weaken the credit position of the roads and provide no permanent remedy. Let us consider another plan.

The thing most needed at the present moment is a greatly increased number of open top cars—they are commonly called coal cars, unfortunately for other lines of business requiring cars of this class, but they are used for handling many kinds of bulk materials other than coal, particularly construction materials of many kinds and when in the fall of every year, the demand for coal springs up—these cars are all classed as coal cars and preference in the use of them is given to the mines to the great distress of all lines of construction activities. The evils of this practice are far reaching but need not be discussed here.

To remedy this trouble the Government could organize a corporation to purchase and hold ownership in an adequate number of the new cars of this class and of the other classes as needed and lease them to the railroads at a reasonable

per diem charge. The distribution of these cars should not be in the hands of this corporation nor under the direction of the Interstate Commerce Commission, which already has more power than it is qualified to use and more duties to perform than it can even properly classify, but it should be in the hands of a general manager appointed by the Association of Railway Executives.

Here we would have Government ownership without Government operation—two vastly different functions.

As soon as possible the Government Equipment Corporation should buy from the railroads all their freight cars of not over a certain age and of a certain standard of serviceability, and should thereafter buy each year enough new cars to guarantee the country against any possible car shortage. The railroads would keep these cars in repair and would pay to the Equipment Corporation a per diem charge sufficient to cover depreciation and interest charges on the Corporation's equipment bonds which would, of course, be at a much lower rate of interest than the railroads now have to pay.

One effect of this move would be to release to the railroads great sums of money now tied up in freight cars and which could then be used to buy engines and the other items which they must have before they can adequately serve the country. This would give a great impetus to traffic and would speedily improve the credit position of the railroads so that farther marketing of their securities would be possible at reasonable rates, to meet further expansion needs and thus the "vicious cycle" will have been reversed.

But the chief gain to the entire country would be the ability of industries to expand to their full capacity with the assurance that their products could be moved. This would naturally lower prices of all bulk commodities.

The farmer could then plant his crops and gather his fruits knowing that he would not have to leave them rotting on the farm for lack of cars in which to move them to the hungry markets.

Of course some financial interests that are now lapping up much gravy under the present system or lack of system, will oppose any move of this nature. The people who now insure the cars would find their occupation gone and there would be a cry from those who own stock in equipment mortgage companies and who loan money to the railroads on short term notes at distressing rates of interest, but in spite of this it will be a strange thing if the people of the United States cannot work out some new way to provide enough money to obtain a sufficient number of cars and engines to carry their goods to market and so keep them provided with automobiles and other necessities of life in this favored portion of the globe.

GEO. R. COLLINS.

Municipal Improvement Problems Discussed in Annual Convention of Society at Cleveland.

At the recent twenty-eighth annual convention of the American Society for Municipal Improvements held in Cleveland, Ohio, the following officers were elected for the ensuing year:

President: W. W. Horner, St. Louis, Mo.
First Vice President: E. R. Dutton, Minneapolis, Minn.
Second Vice President: Herman H. Smith, New York City.
Third Vice President: E. L. Dalton, Dallas, Texas.
Treasurer: Robert Hoffman, Cleveland, O.

Charles Carroll Brown of St. Petersburg, Fla., who has been secretary of the Society for a number of years was re-elected.

The activities of this society are largely conducted through committees which deal with all phases of municipal improvement work. These committees are constantly studying the latest practices in each branch of municipal undertakings and

report their progress from year to year to these annual conventions where appropriate action is taken by the members. They embrace in their membership leading municipal officials and specialists throughout the country and they have so conducted these investigations and made recommendations for changes in specifications and methods of practice that the society has won for itself an increasingly strengthened position in matters regarding the designing and construction of municipal improvements.

In addition to the committee meetings a number of interesting papers were read, dealing with various interesting accomplishments in the modern development of municipal facilities. These include construction of city planning and zoning, which question is attracting unusually wide attention throughout the country looking toward further development of cities along definite, fixed plans; various phases of modern sewerage disposal and the results that have been achieved from special experimentation and study of different operations; modern street lighting; late methods in the disposal of garbage.

At the business session of the convention resolutions were adopted asking the Interstate Commerce Commission to give more favorable consideration to construction materials.

Memphis, Tenn. was selected for the 1923 Convention.

In connection with the convention there were quite a number of exhibits made by those manufacturing equipment, materials and supplies entering into municipal improvement work. Those exhibiting include the following:

The American City, New York, N. Y.; American Tar Products Co., Chicago, Ill.; Asphalt Association, New York, N. Y.; The Barrett Co., New York, N. Y.; Bitoslag Paving Co., New York, N. Y.; Cincinnati Quarries Co., Cincinnati, O.; Cleveland Stone Co., Cleveland, O.; Cleveland Trinidad Paving Co., Cleveland, O.; Common Brick Mfrs. Assn., Cleveland, O.; The F. D. Cummer & Son Co., Cleveland, O.; Dunn Wire-Cut Lug Brick Co., Conneaut, O.; Eastern Clay Products Assn., Philadelphia, Pa.; B. K. Elliott Co., Cleveland, O.; Engineering & Contracting, Chicago, Ill.; Engineering News-Record, New York, N. Y.; Esco Manufacturing Co., Peoria, Ill.; General Motor Truck Co., Pontiac, Mich.; W. S. Godwin Co., Inc., Baltimore, Md.; W. & L. E. Gurley, Troy, N. Y.; Highway Engineer & Contractor, Chicago, Ill.; Holophane Glass Co., New York, N. Y.; Chas. Hvass Co., New York, N. Y.; International Steel Tie Co., Cleveland, O.; Kentucky Rock Asphalt Co., Louisville, Ky.; Kinney Mfg. Co., Chicago, Ill.; Link Belt Co., Philadelphia, Pa.; Lock Joint Pipe Co., E. Orange, N. J.; Macbeth-Evans Glass Co., Pittsburgh, Pa.; Madison Foundry Co., Cleveland, O.; Manufacturers Record, Baltimore, Md.; Mound Traffic Equipment Co., Columbus, O.; National Lamp Works of Gen. Elec. Co., Cleveland, O.; National Paving Brick Mfrs. Assn., Cleveland, O.; Ohio Paving Brick Mfrs. Assn., Columbus, O.; Ohio Quarries Company, Cleveland, O.; Parr Paint & Color Co., Cleveland, O.; Pittsburgh Testing Laboratory, Pittsburgh, Pa.; Public Works, New York, N. Y.; The Texas Company, New York, N. Y.; Turbine Sewer Machine Co., Milwaukee, Wis.; J. C. Ulmer Co., Cleveland, O.; U. S. Asphalt Ref. Co., New York, N. Y.; Warren Brothers Co., Boston, Mass.; Watson Engineering Co., Cleveland, O.; The White Co., Cleveland, O.; R. D. Wood & Co., Philadelphia, Pa.

Large Grain Elevator Nears Completion at Norfolk.

Norfolk, Va., October 14.—In about 30 days' time a new grain elevator will be completed here as the first unit of the extensive municipal waterfront terminal facilities which will cost \$5,000,000 or more. Folwell, Akiskog & Co., Chicago, are the designers and A. N. Crane & Co., another Chicago firm, has the general contract for the elevator, which will have a storage capacity of 1,000,000 bushels.

Plans are being discussed in Salisbury, Md. for the establishment of a series of 20 acre farms along the state highway from Salisbury to Ocean City. The Chamber of Commerce reports that actual work will be under way on the development before the first of the year. Among those interested is Orlando Harrison.

Carbon Black Produced by New Process.

Monroe, La., October 5.—[Special.]—The Thermatomic Carbon Co. has completed and is operating a carbon black plant at Sterlington, La., in the Monroe gas field, that promises to have an important effect on the carbon black manufacturing industry.

Under the new process used by this company, which is the invention of R. H. Uhlinger, a chemical engineer of Pittsburgh, Pa., the plant is making ten pounds of carbon black from 1000 cubic feet of natural gas as contrasted with a production of one pound from the same amount of gas under the old process.

Carbon black is made under the old process by burning the gas against steel plates. Revolving discs scrape the carbon from the steel plates and conveyors carry it to the packing room.

The new process is entirely different. The gas is turned into huge steel tanks, built in the shape of thermos bottles. Furnaces heat the gas, which forms the carbon inside the tanks. Conveyors carry the carbon to the packing room. An important feature is that from 50 to 60 per cent of the spent gas is saved and used for power purposes. The power plant at the new factory is operated by using spent gas for fuel.

The capacity of the new factory will be doubled immediately. A new unit will go up as soon as the material can be obtained. Steel, iron and concrete are used exclusively in the construction work.

The Thermatomic Carbon Co. is financed by the Guffey interests of Pittsburgh. Officers are Joseph F. Guffey, president; E. N. Gillespie, first vice-president; Carroll Miller, second vice-president, and E. K. Bragdon, secretary-treasurer. The board of directors is composed of Joseph F. Guffey, E. N. Gillespie, Carroll Miller, R. H. Uhlinger and R. H. Brownlee, all of Pittsburgh.

The Guffey interests, it is announced here, will immediately build a plant in the gas fields in the Texas Panhandle for the manufacture of helium. Texas was selected because gas in the Panhandle contains helium, while Louisiana gas does not. The United States Government, it is stated, will take the output of the Texas plant for use of the Army in dirigible balloons.

Refrigerating Engineers to Meet at St. Louis.

The thirteenth annual convention and exhibition of the National Association of Practical Refrigerating Engineers will be held at St. Louis, Mo., in the Planters Hotel on Nov. 1, 2, 3 and 4. A tentative program has been issued covering the various papers to be presented and it is announced that 50 booths will be filled with up-to-date exhibits of interest to engineers, plant owners and plant managers, who are expected to attend the convention from all sections of the country.

Plans Completed for \$1,500,000 Office Building.

Shreveport, La., Oct. 14.—[Special.]—Mann & Stern, architects of Little Rock, Ark., have completed plans for the new J. R. Slattery office building to be erected here at an estimated cost of \$1,500,000. It is to cover a site 80 by 150 feet and will be 16 stories high, fireproof throughout with doors and interior finish of metal, five high speed elevators and other modern features. The foundation will be built on concrete piles 40 feet long.

Contract Let for \$300,000 Office Building.

Montgomery, Ala., Oct. 14.—[Special.]—Contract has been awarded Hugger Bros. Construction Co., of Montgomery, for an eight story office building costing approximately \$300,000 to be known as the Shepherd Building. Walter L. Shepherd is the owner. Frederick Ausfeld is the architect. The new building which will contain 154 offices will be fireproof and modern in every respect.

THE IRON AND STEEL SITUATION

Quiet Market at Pittsburgh, with Increased Production—Car Shortages the Rule.

Pittsburgh, Pa., October 14—[Special.]—The steel market has grown quieter still as to the actual turnover. Production has increased farther. Car shortages are the rule rather than the exception at mills, and in many cases finished steel, made on orders of customers, is piling up. In addition to the restriction in the total volume of steel shipped, there are embargoes, whereby shipment to many buyers is made circuitous or is prevented entirely.

A considerable part of the buying of steel products in the open market is by jobbers and manufacturing consumers who, on account of transportation conditions, are not receiving full deliveries on old orders or contracts from their regular sources of supply. Strictly new wants in steel are not arising in volume as this is not the time of year for such developments. The usual autumn requirements are in the main fully covered by old orders, the question being not one of buying but one of actually receiving what has been bought.

Steel mills are no longer concerned seriously about their production. Receipts of coal and coke are now such that a sufficient production rate can be maintained. The difficulty at present lies in shipping the finished product. Naturally mills are fearful lest if shipments be greatly delayed some of the buyers will not need the material when it can eventually be shipped.

Production of steel ingots by the 30 steel companies which make monthly returns to the American Iron and Steel Institute was 2,373,779 gross tons in September against 2,214,582 tons in August and 2,487,104 tons in July. Allowing for the producers not reporting, the total production of ingots in September was at an average rate of 33,000,000 tons a year. Production has been increasing constantly since about the end of August. September opened with a rate much below, and ended with a rate much above, the average shown for the month. The production rate at the present time is probably above 37,000,000 tons a year, or just above the rate in June, which previously had been the high spot of the year in rate of output. The curtailment in steel production towards the close of the coal strike was so sudden, and the recovery since then has been so rapid, that the actual loss in production by the incident has been small. Production July 1 to October 1 was about 750,000 tons less than it would have been had the high rate of June continued. This is equal to about one week's output at the present rate.

There has been no material change in steel prices in the week, either in prices for forward delivery or in prices for spot or early shipment. In general, however, the premiums for early delivery are tending to decrease and are expected to disappear entirely within a few weeks. As to basis prices, for late delivery, the eventual readjustment is not likely to be extensive, since production costs have increased by something like \$5 a net ton, while prices are up only about \$10 a net ton from the low point of early last month.

Connellsville coke, which for weeks held at a level, making the cost of producing pig iron so high as to make pig iron out of reach of the average consumer, has now started to break. A week ago Connellsville furnace coke was firm at \$12, and even \$12.50 had been paid. Early this week it sold at \$11 and has been very freely offered at that figure while there have been some sales at \$10.50. On the basis of the market price of the coal involved in coking, with coal at \$3.50, and the cost of coking, about \$1.25, coke should sell at \$6.50, but coke has often sold at less than its ratio with the coal market.

Pig iron prices, which have been largely nominal in the stagnant market that has obtained, have started declining. As buyers are not yet able to take hold a definite market has

not been established, but in general quotable prices are \$31 to \$33.50 at furnace, depending on grade. As furnaces resume operations and begin filling old orders there is less occasion for consumers to buy prompt iron. Buying in a larger way may begin when the market gets down to about \$25. The two merchant furnaces at Leetonia, O., are being blown in.

The Steel Corporation's unfilled obligations increased by 741,502 tons in September, against increases of 173,944 tons in August and 602,769 tons in April, hitherto the high month of the year in bookings. The large increase in September was due chiefly to rails, in connection with the buying movement in anticipation of the price advance. Some of the tonnage put under cover will not appear until the October statement. Another special feature of September business was the 100,000 ton Sinclair pipe line order. Otherwise the business was much the same as in August.

Steel Ingot Production.

Monthly production of steel ingots from January, 1921, to Sept., 1922, inclusive, as reported to the American Iron and Steel Institute, by 30 companies which made 87.50 per cent of the steel ingot production in 1921, is as follows:

Months, 1921.	Open Hearth. Gross tons.	Bessemer. Gross tons.	All Other. Gross tons.	Total. Gross tons.
January, 1921..	1,591,281	608,276	3,629	2,203,186
February	1,295,863	450,818	2,796	1,749,477
March	1,175,591	392,983	2,404	1,570,978
April	1,000,053	211,755	2,150	1,213,958
May	1,047,810	216,497	1,543	1,265,850
June	808,286	193,644	1,476	1,003,406
July	689,489	113,312	575	803,376
August	915,334	221,116	1,621	1,138,071
September	908,381	265,152	1,207	1,174,740
Total—9 months	9,432,088	2,673,553	17,401	12,123,042
October	1,269,945	345,837	1,028	1,616,810
November	1,294,371	363,912	1,718	1,660,001
December	1,129,174	296,380	1,589	1,427,093
Total whole year	13,125,578	3,679,682	21,686	16,826,946
1922.				
January, 1922..	1,260,809	331,851	822	1,593,482
February	1,395,835	348,571	616	1,745,022
March	1,918,570	451,386	795	2,370,751
April	1,997,465	445,939	1,109	2,444,513
May	2,214,774	494,893	1,474	2,711,141
June	2,143,708	487,851	2,918	2,634,477
July	2,020,572	464,047	2,485	2,487,104
August	1,807,310	404,379	2,893	2,214,582
September	1,911,147	460,127	2,505	2,373,779
Total—9 months	16,670,190	3,889,044	15,817	20,574,851

Pig Iron Market Strong—Car Supply Situation is Miserable, Declare Industrial Leaders.

Birmingham, Ala., October 16—[Special.]—Furnace interests in the Birmingham district are as confident of the pig iron market in the future as they could be and there are no signs of deflection noted in this section. Every mail coming in now includes inquiries as to first quarter delivery pig iron for next year and various companies are holding aloof from the market for that period, assured that there will be need for all the iron to be offered and at prices as favorable as at present. A few sales are still being made by some of the furnace companies, the greater portion of the business being of the spot order.

The railroad car supply is miserable, according to industrial leaders. Railroad officials assert that they are making gains in the number of cars being loaded and in the loadings, too. The two statements hardly agree.

That the pig iron market is strong is to be deduced from the actual figures. Alabama produced in September 203,604 tons of pig iron. On the yards in this state on October 1 there were 111,816 tons of iron, against 72,000 tons on September 1, just 39,807 tons piling up in September by reason of the transportation facilities lagging. The 39,807 tons

taken from the make shows that 163,857 tons of iron were delivered somewhere during the month. There was steady operation also during September at the foundries and machine shops, at the steel mills, and iron and steel finishing mills of this district and though the car supply has been bad, there is not an alarming amount of material of any kind to be seen stacked up. Quotations in this district range between \$28.50 to \$30.00, No. 2 foundry, 1.75 to 2.25 per cent silicon. Cast iron pipe and sanitary pipe interests have purchased liberally, indicating there will be a steady melt for some time to come.

Announcement is made that another pipe foundry will be erected in this district, the market growing steadily and there being warrant for development. Alabama's gains in foundries during 1921-22 will be more than duplicated in 1922-23. Tentative plans are to be heard of already which will bring about 4 or 5 new industries in either Birmingham, Anniston, Gadsden or Bessemer during the next 12 months. In the statistical standing Alabama is given credit for 99 foundries, this number being considered low.

Belief is held by Southern furnace interests that another buying movement is about to set in for the reason that insistent inquiries are being received as to future iron.

Plans are still in hand for the resumption of operations at three blast furnaces in this district next month. The matter of a steady supply of raw material is the principal consideration right now as repairing of the iron-makers goes on. For the first time, it became known a few days since that the car supply in the Birmingham district had caused some limping at ore mines. The fact that bins at furnace plants carry from one to two weeks supply of ore prevented apprehension, but there is such a close watch on the steady moving of raw material that the lagging movement for a couple of days brought about comment. Congestion on railroads is complained of by consumers in other districts. In the St. Louis and Chicago territories some Southern made iron is being delivered via the river from Florence-Sheffield, in the northwestern part of Alabama, through Metropolis, Ill. The amount is not sufficient to arouse any great interest.

Furnace companies in answer to comments as to the high prices obtained for pig iron here, state that it makes no difference how high the prices are when delivery cannot be accomplished.

Iron melting concerns in the home territory were in the market recently and reports differ as to the tonnage purchased, one report being that 25,000 tons was contracted for, while a more conservative estimate placed the amount at 10,000 tons.

Unless there is a decided change in the transportation facilities for the last half of the month, the indications are the surplus stock of iron will hardly be cut down any, in fact, there will be further increase. With but half a month's production on the yards, however, no apprehension is held that the market will be affected in the least.

Coal production in Alabama is on a 345,000-ton basis per week. The maximum is 400,000 tons. Car supply is responsible for the low average at present though there is need for improvement in the demand for steam and bunker coal. Shipments of the latter to the Southern ports are beginning to improve. Domestic coal stocks in this territory are low. Even local retail yards are short of stock, within 25 to 40 miles of some of the larger producing domestic coal mines of the district. State control will hold prices of fuel down in Alabama, under the price that was obtained last winter.

Coke demand has taken on another spurt and those companies in position to sell and get deliveries are taking on business. Foundry coke is bringing \$8.50 to \$10 per ton, where delivery can be guaranteed. The New Castle Coal & Coke Co. is considering resumption of operations of their bee-hive ovens at New Castle again, the cokemakers being

left idle while the coal demand was so strong. The local consumption of coke is big and there is some business offered from the outside. The Sloss-Sheffield Steel & Iron Co. continues disposing steadily of the surplus stock of coke on the yards of the North Birmingham by-product coke oven plant. The two cargoes shipped to the New England states established quite a reputation for the product from this district, the coke arriving there in splendid shape despite the long haul.

The scrap iron and steel market shows strength still with a fairly good demand for all the products except heavy melting steel. The dealers are buying steadily as the assorting and outward movement keeps up. Furnace interests as well as foundries are buying old material. Some of the latter are using more old material than for the past two years, the high price of pig iron still being given as one of the causes. Heavy melting steel is quoted at from \$15 to \$20, but dealers are holding to the latter while the larger consumer offers the first named price and apparently is getting all the stock that is needed.

Quotations for pig iron and iron and steel scrap follow:

PIG IRON.

No. 2 foundry, 1.75 to 2.25 per cent silicon, f. o. b. furnaces, \$28.50 to \$30.00; No. 1 foundry, 2.25 to 2.75 per cent silicon, \$28.50 to \$30.50; iron of 2.75 to 3.25 per cent silicon, \$29.50 to \$31.00; iron of 3.25 to 3.75 per cent silicon, \$30.00 to \$31.50; iron of 3.75 to 4.25 per cent silicon, \$30.50 to \$32; charcoal iron, f. o. b. furnaces, \$34.00 to \$35.00.

OLD MATERIAL.

Old steel axles.....	\$22.00	to	\$23.00
Old iron axles.....	24.00	to	25.50
Old steel rails.....	16.50	to	17.50
Heavy melting steel.....	15.00	to	20.00
No. 1 R. R. wrought.....	20.00	to	23.00
No. 1 cast.....	20.00	to	25.00
Stove plate.....	19.00	to	20.00
Old car wheels.....	19.00	to	20.00
Old tramcar wheels.....	22.00	to	23.00
Machine shop turnings.....	9.00	to	10.00
Cast iron borings.....	12.00	to	13.00
Cast iron borings (chem).....	15.00	to	16.00

\$1,000,000 Tack Plant to Be Erected in St. Louis— Contract Awarded for Construction.

St. Louis, Mo., October 16—[Special.]—An investment of \$1,000,000 will be made by the Atlas Tack Corporation, of Fairhaven, Mass., in constructing and equipping a plant to be erected upon a four and a half acre tract of land in the north-west industrial section of this city, the contract for which has been awarded the Widmer Engineering Co., of St. Louis.

Six buildings will be erected, the largest of which will be 200 by 500 feet. Work will begin at once and it is planned to have the plant in operation by March 1, 1923. About 750 persons will be employed.

Negotiations for locating the plant in this city have been under way for more than two years. Information furnished by the Chamber of Commerce showed that the local steel mills could produce the necessary raw materials, and that the great shoe factories here would furnish a ready outlet for the finished products.

Further details about the plant are contained in a letter to the MANUFACTURERS RECORD from Wm. F. Donovan, President of the company, as follows:

"The statement made by various publications in regard to the cost of the plant is somewhat misleading as the cost to build will be considerably less than \$1,000,000. However, we expect that the building fully equipped, together with the stock necessary to begin manufacturing will make our total investment fully \$1,000,000.

"The plant is being erected in order that we may give better service to our western trade, and will produce practically the same line manufactured at Fairhaven, viz: all kinds of tacks and small nails.

"The entire construction work is in the hands of the Widmer Engineering Co. of St. Louis."

C. H. Page & Bro., Austin, Tex., are the architects for \$130,000 two story fireproof high school building to be erected at Georgetown, Tex.

RAILROADS

\$50,000,000 VOTED FOR IMPROVEMENTS.

Terminal Railroad Association of St. Louis Proposes Increase of Facilities.

The Terminal Railroad Association of St. Louis, Henry Miller, president, last week voted to increase its capital stock from the old figure of \$50,000,000 to \$100,000,000 so as to finance improvements and extensions of its facilities to meet increased traffic demands. The members of the Association are the principal trunk line railroads whose trains enter St. Louis, and it is said to constitute the largest united system of freight and passenger terminals in the world.

President Henry Miller is reported as saying that the railroad tonnage handled by the Terminal Railroad Association has trebled in the last twenty years and that it is vitally important to the public as well as to the railroads that the terminal facilities shall be such as to permit traffic to flow freely and in increasing volume. Immediate consideration is to be given to the problem. Under the proposed financing it is stated that securities are to be issued in such sums as may be necessary to carry out specific plans and it may be some time before any of them are offered. The recommendations made by a special committee of engineers in a report to the terminal committee of the St. Louis Chamber of Commerce last June are being gone over to decide which of the suggestions made are available for the work contemplated by the Terminal Association.

"Business Again on the Up-Grade" Says President Harrison of the Southern Railway.

In the annual report of the Southern Railway Company for 1921, submitted to the stockholders at the annual meeting last week, President Fairfax Harrison notes the improved conditions prevailing in manufactures and agriculture in the South, beginning with the statement: "Business in the South is again on the up-grade."

By means of economy and diversification of crops the farmers in the South—although they have not recovered from the fall of prices which occurred in 1920—have discharged a large portion of the indebtedness which they had to incur in that year and in 1921, and they are now making hopeful progress from their old position of dependence upon a single money crop, (either cotton or tobacco), with one pay-day a year at market time, toward independence to come from farm operations that will yield cash returns throughout the year from sales of truck crops, dairy products, cattle, hogs and poultry. In support of these statements President Harrison quotes from a report of the United States Bureau of Markets showing that from January 1 to August 19, 1922, there were shipped from points in North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana and Tennessee a total of more than 107,000 car loads of cabbages, canteloupes, lettuce, onions, strawberries, sweet potatoes, tomatoes, watermelons, white potatoes, peaches and mixed vegetables, while for the same period of 1921 the total was upward of only 83,000 car loads, the increase being considerably more than 28 per cent, and this notwithstanding that the yields of watermelons and peaches decreased because of unfavorable weather conditions. He also notes the establishment of 26 new creameries along the lines of the Southern Railway, a large increase in butter production, the raising of milk-fed poultry in the southern part of Georgia, after the manner profitably practiced for years in the eastern part of Tennessee, as well as the acquisition by farmers of more pure bred poultry than in any other year, and the raising of high grade tobacco in South Carolina and Georgia.

There are signs of an increase in the movement of farm

settlers into the South, and conservative colonization projects are being started in several localities by the Southern Railway, under which lands will be prepared for farming and offered on terms which should be attractive to a desirable class of farmers from parts of the country where prices of land as measured by their productive value are much higher than in the South.

The income statement of the company for 1921 shows total operating revenues of \$128,715,150; total operating expenses, \$105,829,007; net revenue from operations, \$22,886,143; operating income after taxes, rentals, etc., \$13,971,781; total gross income, \$18,210,975; increase, \$40,363, as compared with 1920; total available income \$14,229,180; balance carried to credit of profit and loss, \$2,019,370, as compared with \$113,713 in 1920.

Shippers Urged to Hasten Car Movements.

The car service division of the American Railway Association, Washington, D. C., has issued a circular letter to shippers saying: "It is extremely important from the standpoint of shippers as well as the railroads, that extraordinary methods of co-operation be adopted along the following lines to measurably meet the transportation needs, particularly of the next few months: 'Load cars to their full carrying capacity. Unload cars promptly. Order cars in advance, and on a basis of what will be loaded within a 24-hour period. Do not hold cars for prospective loading. Place orders requesting 'reconsignment' with promptness. Issue bills of lading promptly.'"

As to the reasons for these suggestions it is remarked that "2,250,000 fewer cars would have been used during last year to handle the tonnage if the cars had been as heavily loaded throughout the year as they were during the last quarter of 1920. Moreover, if 24 hours can be saved by promptly unloading one car out of every ten cars placed there will be 15,000 more cars available. It is also easy to avoid at least two days delay by placing reconsignment orders promptly. Freight cars are built to haul goods; not to store them. The railroads do not want demurrage."

Operating Results on Class One Railroads.

During August the net operating income of Class 1 railroads of the United States totaled \$52,579,799, it is stated by the Association of Railway Executives. Estimated on annual basis this was only 2.65 per cent of their tentative valuation and therefore the railroads failed by \$66,657,800, to realize a return of 6 per cent. They were also \$61,689,500 short of a return of 5¼ per cent, the figure set by the Interstate Commerce Commission a few months ago.

Operating revenues of the railroads in August totaled \$473,877,000 or 6.3 per cent less than for the same month of last year, while operating expenses increased 1.3 per cent. During the first eight months of this year they had net operating income of \$471,183,600, showing an annual rate of little more than 4 per cent, as compared with 2.64 per cent in the same period of 1921. During August this year the railroads in the Southern district had net operating income of \$4,618,000, an increase of \$196,000 as compared with the same month of last year.

Steady Increase in Freight Loadings.

A total of 988,381 cars were loaded with revenue freight on the railroads during the week ended September 30, according to reports received by the car service division of the American Railway Association, this total being within three per cent of the record weekly loading which took place during the week of October 15, 1920. It was also the largest number of cars so loaded during any week since October 22 of two years ago, when 1,008,818 cars were loaded. As compared

with the previous week this year there was an increase of 15,000 cars, but as compared with the same week of last year the increase was 83,550 cars.

Requisitions for freight cars in excess of current supply totaled 130,325 cars on September 30, an increase of 22,659 cars as compared with September 23.

\$2,000,000 for Double Tracking and Reducing Grade

The Louisville & Nashville Railroad Co. proposes to build double track on its Cumberland division from Heidrick to Pineville, Ky., about 15 miles, the estimated cost of the work, which is to be let immediately, being about \$2,000,000. When it is completed the division will have two tracks all the way from Corbin on the main line, to Pineville, 31 miles, and the traffic capacity of the division, it is said, will be increased to double the present capacity, for handling coal shipments from the fields in Bell and Harlan counties. There will also be established on the road a maximum grade of three-tenths of one per cent.

To Improve New Orleans Belt Line.

A vote will be taken in New Orleans at the election on November 7 on a proposed issue of not more than \$5,000,000 of municipal bonds to further develop, extend and otherwise improve the Public Belt Railroad there. The bonds are to bear not over 6 per cent interest and are to run not more than 40 years.

TEXTILE

Contract Let for Additions to Judson Mills—New Work to Cost \$700,000.

Greenville, S. C., October 14.—A contract for the erection of an addition to the weave room and picker building at the Judson Mill was let yesterday to the Gallivan Building Company. Work will begin at once upon the enlargements and improvements which when complete will cost \$700,000, and virtually double the producing capacity of Judson. The addition will be 103 by 320 feet, one story high with basement, to contain 600 new rooms. The roof will be of saw-tooth construction to give ample lighting and ventilating facilities.

Both the weave room shed and the picker building will be of brick construction with steel frames. The picker room will be two stories high with basement 50 by 60 feet. These improvements will give employment to about 200 more operators; already the building of 100 new mill houses is under way at a cost of \$125,000. J. E. Sirrine & Co. of Greenville are the architects and engineers.

Cotton and silk goods are the products of the Judson Mills of which B. E. Geer is president and treasurer and B. S. Mills is secretary.

Predicts Period of Unusual Activity and Prosperity for Southern Textile Plants.

Greenville, S. C., October 14.—[Special.]—A period of unusual activity and prosperity is ahead of the cotton goods manufacturing industry of this section, and the next three years should see big expansion along this line, according to B. E. Geer, president of the Judson Mills, who has just returned from the New England states. One of the problems due to the expansion of the industry will be meeting the need for labor, said Mr. Geer, adding, "However, in this matter of labor, textile mills of the Carolinas have been exceedingly fortunate in recent years both in quality and quantity of labor. It is said that the spinning industry is gravitating southward, where the necessary raw materials and abundant labor are available."

England Does Not Like India's Protective Tariff on Cotton Goods.

Manchester, Eng., Sept. 26.

This week a summary has been published of the report of the members of the Indian Fiscal Commission, which was appointed "to examine with reference to all the interests concerned, the tariff policy of the government of India, including the question of the desirability of adopting the principle of Imperial preference, and to make recommendations."

Owing to the large trade done by Lancashire with India in cotton goods, considerable interest has been taken in the report by Manchester and Lancashire firms. With regard to the excise duty on cotton goods the conclusion of the commission is that the existing duty should be unreservedly condemned; that the British government should announce its intention of allowing the government of India to decide in agreement with the Indian legislature what action should be taken, and that the government of India and the legislature should then begin with a clean slate and take such measures as the interests of India require.

This recommendation has not caused any surprise, as for some time it has been pretty well recognized that sooner or later the import duty would have to go. When this happens, however, Lancashire will be at a further disadvantage in competing against manufacturers in India. In the opinion of leading Manchester merchants, there are two ways by which a policy of protection in India can be got over by Lancashire. In the first place a fair rise in the value of the rupee would be of considerable benefit to exporters in this country, and we should be in a much better position to compete successfully with home made goods. If a long view of the situation is taken, however, the opinion prevails that as the years go by the standard of living of the natives in India will be raised and that they will not be content to be clothed with coarse materials such as those made by the Indian mills.

It is very important that England should do everything possible to make India prosperous so that the natives will be able to purchase finer cloths than in the past, and it is probable in this way that Lancashire will maintain her extensive trade in India. It must be expected that more and more mills will be built in India. Imports of textile machinery are on a large scale, but the factories are being put up at a big cost, and the capital outlay is much larger than that of Lancashire companies.

North Carolina's Knitting Mills in Second Place.

Raleigh, N. C., October 13.—[Special.]—A recent report on North Carolina's knitting mills shows that by June 30, 1922, they held second place in the textile industry. The report on the spinning and weaving branches of the industry has already been summarized.

There are 142 hosiery and knit goods mills in operation, with \$34,876,500 capital employed (an increase of 797 per cent as compared with 1912, when it was \$3,879,360.) The raw cotton consumed was 31,038,470 pounds and the value of the output was \$27,352,354.

The number of spindles is 222,037, knitting machines 19,005; sewing machines 2375, ribbers 3591, loopers 2647; horsepower 16,912. The number of employees is 12,564, an increase of 100 per cent in 10 years. The value of the products has during the same period increased 349 per cent; the spindle increase being 78 per cent, horsepower, nearly all by hydraulic, 72 per cent.

The chief products are hose, half-hose, shirts, drawers and union suits, and there is a steady movement toward the higher grades.

LUMBER AND BUILDING MATERIALS

From 30 to 60 Days Behind on Brick Orders.

"We are some 30 to 60 days behind in practically all of our plants", writes M. R. Watson, of the plant production department of B. Mifflin Hood Brick Co., Atlanta, Ga., in a letter to the MANUFACTURERS RECORD discussing business conditions. "Judging from our sales we may expect good business for the next three months and unusually good business compared with the same time last year, and we anticipate having to push our plants with all possible speed in order to keep up with orders."

"We are told by some of the largest architects in this section that they are urging some of their clients to postpone their work for the next three or four months in order that they may catch up and complete plans they are already working on. This condition is due partly to approximately \$5,000,000 being spent by the city of Atlanta in school buildings, there being 18 schools in all, either to be enlarged or new buildings entirely. However, we feel the residential work to be unusually lively and we are of the opinion that the Southern clay industries will enjoy good business for the next 18 months if they keep their prices down to a fair margin of profit, which will be the policy of this company under whatever conditions might arise."

Good Market for Cement This Year in the Southwest.

El Paso, Tex., Oct. 13.—[Special.]—"In this locality the market for cement for the year 1922 has been the best in the history of the Southwestern Portland Cement Co., or of this section of the country," according to O. J. Binford, secretary and superintendent of the company. "Prospects for the coming year are probably not as good from a tonnage standpoint as this year has been, but from a general construction view probably much better, and it would not be surprising to us to see general improvements sufficient to absorb almost the certain drop off of road work in this particular territory for next year."

"An explanation of this is that we are supplying cement this year for the completion of a heavy road program that has been hanging fire for four or five years, and we cannot expect as much next year. But we can expect smaller jobs of a considerably greater number than this year."

Pressure Continues for Buildings Throughout Country.

"Although the current season has been by far the most important in the annals of the building and construction industries, there is no indication that the intensive pressure for more buildings throughout the country has spent its force," says S. W. Straus, president of S. W. Straus & Co. In discussing the building situation throughout the United States. "There is, of course, some slowing up at this time due to weather conditions, car shortage and freight embargoes, but fundamentally there is still a large demand for buildings, including industrial and commercial types as well as apartment houses."

"It should be borne in mind that the tremendous amount of building so far this year, amounting to more than \$3,000,000, has been accomplished in the face of many serious obstacles. The labor situation has been far from stabilized, general business has not entirely recovered normal momentum and conditions abroad have not improved generally. Therefore, there will be a demand for more buildings to take care of the larger requirements of business, in addition to the shortage which was created by two seasons of comparative inactivity."

"It is to be remembered also that standards of living are constantly improving in this country. People are demanding

better living accommodations and conveniences. Yesterday's luxury is today's necessity, and in no phase of human activity is this more apparent than in housing. This means the constant replacing of old structures for new ones represent the last word in conveniences and comfort."

"At present the labor situation in the building industry seems in better shape throughout the country than has been the case at any previous time this year. There is a shortage of workers in many of the essential trades, but it is noted that schools have been started for the purpose of teaching various building trades to apprentices, and the delays and inconveniences which have been caused in times past by the shortage of labor in some particular trade seems likely to be alleviated."

"Taken in its entirety the outlook for the industry may be viewed with the greatest optimism."

Report on Southern Pine Mills.

New Orleans, La., October 13.—Reports from 124 mills of the Southern Pine Association for the week ended October 6 show receipts of orders totaling 2488 cars containing 54,708,632 feet, giving an average of 441,199 feet per mill. Shipments during the week amounted to 2464 cars of 54,180,896 feet, the average being 436,943 feet per mill. The production was 72,176,622 feet, or an average of 582,070 feet per mill.

Shipments for the week were 24.93 per cent below production. Orders were 24.20 per cent below production and .97 per cent above shipments. The increase in orders on hand during the week was .14 per cent.

The summary report for the week is as follows:

	Cars.	Feet.
Orders on hand beginning of week.....	17,331	381,691,359
Orders received during week.....	2,488	54,708,632
Total.....	19,819	435,799,991
Shipments during week.....	2,464	54,180,896
Orders on hand end of week.....	17,355	381,619,095

To Develop 3000 Acres of White Pine Timber.

Moundsville, W. Va., October 14.—[Special.]—About 3000 acres of white oak timber in Monroe County, W. Va. will be developed by the Monroe County Lumber Co., of this city, just organized with an authorized capital stock of \$100,000 and in which J. W. Garvey, C. H. Hunter, J. W. Henderson, W. W. Henderson, Mentor Hetzer, William Bloyd and G. F. Gray, all of Moundsville and John Green of Powhatan, O., are interested. One mill is now in operation and two more will be installed in the near future. It is estimated that there are 30,000,000 feet of lumber available and that it will require from five to six years to cut and saw this supply.

Conditions at North Carolina Mills.

Norfolk, Va., Oct. 14.—Orders received by 52 mills of the North Carolina Association for the week ended October 7 total 9,071,715 feet, an average of 174,456 feet per mill. Shipments amounted to 11,484,312 feet, the average per mill being 220,852 feet. The production of these mills was 10,849,931 feet.

Orders received during the week were 21 per cent below shipments, and 16 per cent below the actual production. Shipments were 6 per cent above the actual production. There was a decrease in orders compared with the preceding week of 37 per cent.

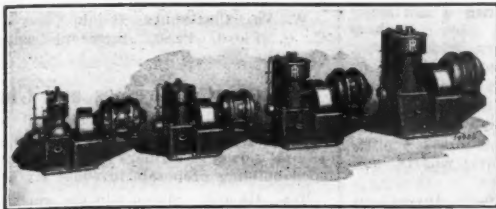
The Capital City Building and Market Co., of Atlanta, Ga., is proceeding with the erection of a \$500,000 market building and auditorium. The Turner Construction Co., of Atlanta and New York have the general contract. Robert & Co. are the architects.

MECHANICAL

New Series of Air Compressors.

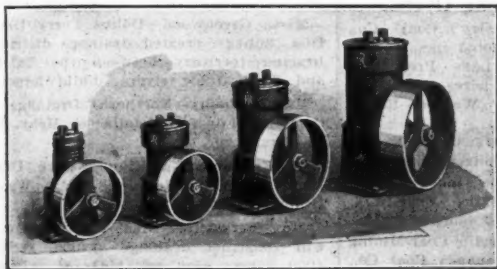
A new line of small vertical belt-driven air compressors recently developed also has each size built as a self-contained electric motor outfit, driven through pinion and internal gears or by employing the short belt-driven arrangement as shown in the illustrations. These compressors known as Type Fifteen are manufactured by the Ingersoll-Rand Company, 11 Broadway, New York, and the compressing end and electric motor of both gear and short-belt drive units are furnished mounted on a common sub-base, so that they are not in any way dependent upon the foundation for correct alignment.

Important features of construction in these machines are the lubrication system which maintains a constant level of



COMPRESSORS WITH ELECTRIC GEAR.

oil automatically and insures the right amount being distributed to all parts, the constant speed unloader for plain belt-driven machines, the centrifugal unloader for start and stop control machines, and the increased size of the water reservoir cooling pot. As with the ordinary splash system the base of the compressor forms an oil reservoir for the constant level system, but with this system pet cocks determine the maximum and minimum amount of oil in the reservoir. Above the reservoir and directly underneath the connecting rod is a constant-level pan into



COMPRESSORS FOR BELT DRIVE.

which oil is pumped from the reservoir by means of a unique oil pump. Regardless of the amount of oil in the reservoir, so long as it is somewhat between the high and low level pet cocks, the system will function perfectly, it is stated, insuring a constant-level of oil in the pan. A projecting stem on the connecting rod dips into this pan and distributes just sufficient oil for proper lubrication.

The constant speed unloader controls the unloading of the compressor by automatically opening the inlet valve when the receiver pressure rises above the point at which the unloader is set to operate. Then after the pressure has fallen a determined amount, the valve is automatically released and pressure is again built up.

The centrifugal unloader allows the compressor to start under no load, such as is essential when automatic start and stop control is used, and permits the electric driving motor to come up to full speed before the load is thrown on auto-

matically. This is done by the machine keeping the inlet valve open until the motor has reached full speed.

The smallest of these compressors is built with either ribbed cylinder for air cooling where service is intermittent, or else with a water jacketed cylinder of the reservoir type for constant service. All the other sizes are built only with the water jacket. The capacity of these reservoir pots it is stated, is generous and one filling is sufficient for long periods of operation.

Good Roads and Streets

Public Roads Bureau Distributing Picric Acid.

More than 4,000,000 pounds of picric acid, prepared in cartridge form, for blasting purposes, has been distributed by the Bureau of Public Roads to farmers in many states in every section of the country up to September 1 last. This explosive is a part of the millions of pounds of picric acid left over from the war, and is being distributed to farmers throughout the country by the Federal Government at a nominal charge of seven cents a pound, which expense is solely for the purpose of covering the cost of drying, cartridgeing, and distribution. Freight charges, however, are added.

In order to obtain a necessary quantity of picric acid cartridges, farmers are advised by the Bureau of Public Roads to make application to the Extension Service of their state agricultural colleges or write direct to the Drainage Division, Bureau of Public Roads, Washington, D. C.

Will Develop Road Building Materials.

The Lawton Chemical Co., Inc., of Huntington, W. Va., is preparing to develop on a broad scale the manufacture of road material, agricultural lime, steel and glass fluxing materials. A branch railroad from the Chesapeake & Ohio main line at Lawton, Ky., is being put in. Contracts have been placed for additional equipment to give immediate tonnage of 2500 tons daily at the Lawton plant, with the possibility of increasing to a maximum of 5000 tons per day. Negotiations are also under way for several large black rock asphalt properties in western Kentucky.

Notes on Good Roads Construction.

J. P. Sherman, Corpus Christi, Texas, has been awarded the contract by the Commissioners Court for ten miles of concrete road at a cost of \$210,000.

J. W. Gwinn of Birmingham, Ala., will construct a stretch of road in Walker County from the Jefferson line to the Warrior river. His bid was about \$170,000 for gravel road.

P. H. Pietmier, chief engineer of the Missouri State Highway Commission, announces the award of contracts for construction of bituminous macadam and gravel roads at a cost of \$235,000. The roads will be built in Osage, Chariton, Morgan, Lewis and Grundy counties and are a part of the system provided by the state bond issue. The awards are as follows:

In Osage county, 2.36 miles of gravel road, 16 feet wide, at \$17,258 to Joseph Pope, Jefferson City, Mo.

In Chariton county, 2.9 miles of bituminous macadam road, 18 feet wide at \$87,428 to E. G. Johnson, of Carrollton, Mo.

In Morgan county, 5 miles of gravel road at \$16,100 to the Wassman Construction Co., Kansas City.

In Lewis county, 1.6 miles of gravel road at \$41,023 to Henderson & Washam, Jacksonville, Mo.

In Grundy county, 2.6 miles of bituminous macadam road at \$72,632, to the Harris Construction Co., of Des Moines, Iowa.

Construction Department

EXPLANATORY

Additional information is published about all enterprises mentioned in this department as soon as such data can be obtained. Further facts about any incomplete or incorrect item reported in these columns are always appreciated.

DAILY BULLETIN

The Daily Bulletin is published every business day to enable its subscribers to follow up promptly the industrial, commercial, railroad, financial, building and general business development of the South and Southwest. To machinery manufacturers and dealers, contractors, engineers, and others who require daily information of every new enterprise organized and details about important additions to enterprises already established, the Daily Bulletin is invaluable. Subscription price, \$20.00 a year.

Bridges, Culverts and Viaducts.

Ala., Selma—City, W. O. Crisman, Engr., plans building bridge across Valley Creek at Live Oak Cemetery; \$50,000 to \$80,000.

Ark., Marion—Crittenden County Comms. plans constructing steel and concrete viaduct, to replace old wooden structure that leads 2 mi. from Harahan Bridge; contemplates voting on \$1,000,000 bonds.

Fla., Jacksonville—Duval County Commrs., will build creosoted wooden bridge. For full details see Mch. Wanted—Bridge Construction.

Ky., Lebanon—State Highway Comsu., Frankfort, Ky., let contract to Brookville Brick Co., Brookville, O., for superstructure; to Wm. Murphy & Bro., Bowling Green, Ky., for substructure; 100-ft. steel span bridge over Rolling Fork, on Lebanon-Campbells-ville rd.; 16-ft. roadway; concrete floor; stone abutments; \$18,000. (Lately noted.)

Miss., Jackson—Hinds County Board of Supvrs., let contract to Blodgett Construction Co., Shreveport, La. at \$36,000 to build overpass and underpass at 2 places where Alabama & Vicksburg R. R. crosses Jackson-Clinton Highway. (Lately noted.)

Miss., Yokena—Warren County Board of Supvrs., Vicksburg, Miss. For full details see Mch. Wanted—Bridge Construction.

Mo., Alton—For full details see Road and Street Construction.

Mo., Mount Sterling—Gasconade County plans building steel bridge across Gasconade River; concrete piers. Address County Comms.

S. C., Columbia—Richland and Lexington Counties contemplate constructing memorial bridge over Congaree River, extending from Gervais St., Columbia, Richland County, to New Brookland, Lexington County. Address Chamber of Commerce, Columbia, S. C.

Tex., Canadian—Hemphill County Comms. Court. W. D. Fisher, County Judge, let contract for bridge over Washita River on Canadian-Gageby-Zyback road; two 80-ft. spans; concrete pillars; 100-ft. approach on either side. (Lately noted.)

Tex., Richmond—Fort Bend County plans constructing bridge over Brazos River, on State Highway No. 3; \$195,000; C. D. Myers, County Judge, Richmond; C. H. Kendall, County Engr., Sugarland, Tex.

Tex., Silverton—Briscoe County let contracts to Austin Bros. Bridge Co., Coombs St., Dallas, Tex., at \$20,930 for 2 bridges; 1700-ft. pile trestle bridge over Red river; 250 ft. trestle bridge over Battle Creek; L. B. Richards, County Judge; Midwest Engineering Co., Engr.

Va., Union Mills—Mecklenburg County, Bd. of Supvrs., South Hill, Va., will build steel and concrete bridge. For full details see Mch. Wanted—Bridge Construction.

W. Va., Dundon—Elk River Coal & Lumber Co. plans building 6 bridges on Dundon to Widen road.

Canning and Packing Plants.

Fla., Apalachicola—Wm. Lee Popham will construct oyster factory, 36,000 ft. sq. of floor space with additional 80,000 sq. ft. for expansion; will install modern mch. including elevators for handling oyster shells, fresh water washers; etc., construction begun; has also acquired 4 miles of river frontage for harbors, wharfs, and mfg. plants. (Lately noted.)

Fla., Bartow—Lake Garfield Investment Co., capital \$50,000, inceptd. with Guy Ridge, Prest.; E. O. Friday, Secy.-Treas.; establish citrus canning plant.

Ga., Atlanta—California Fruit Growers & Packers' Assn., G. C. Cornett, San Francisco, interested in establishing pimento and pepper canning plant.

S. C., Greenville—W. H. Balentine, Prest. of Balentine Packing Co., purchased buildings of Mountain City Milling Co., will remodel for packing plant.

Clayworking Plants.

Tex., Robstown—W. C. Craig of Brownsville, Tex. will install brick mfg. plant.

Coal Mines and Coke Ovens.

Ky., Horton—Lake-Heltsley Coal Co., Beaver Dam, Ky. (lately noted inceptd.) organized with Dr. Willard Lake, Prest.; M. W. Heltsley, Mgr.; has 40 acres coal land; developing. (See Mch. Wanted—Rails; Spikes; Cars.)

Ky., Montago—Carr's Fork Coal Co., reported to open additional mines, increasing capacity.

Ky., Montago—Means-Haskins Coal Co., will erect coal tippie, miners' houses, etc.

Mo., Higginsville—Higginsville Coal Mining Co. changed name from Bonanza Coal Co., inceptd. with \$150,000 capital by Nelson B. Good, Kansas City and H. C. Odee, Potter, Kan.

Mo., Kansas City—Lincoln Coal & Mining Co., capital \$10,000, inceptd. by Howard N. Hansen, John J. Caldwell and A. Scott Myers.

Va., Alexandria—Trent Amalgam Co. leased plant of Virginia Shipbuilding Co., to mfr. a fuel from slack coal and fuel oil; also have privilege of subleasing, will sublet to der, temporary Chrmn., contemplate establish Western Marine & Salvage Co., for dismantling wood vessels purchased from Government.

Va., Danville—Piedmont Machine Works, capital \$21,000, inceptd. with George H. Gee, Prest.; A. D. Lewis, Secy.

Va., Tazewell—Little Jewell Coal Co., capital \$40,000, inceptd. with George W. St. Clair, Prest.; Tazewell; Thomas H. Settle, Secy., Bluefield, W. Va.

W. Va., Grafton—Duncan L. Despard, purchased 5600 acres coal lands in Taylor, Preston and Monongalia counties; will develop.

Concrete and Cement Plants.

Fla., Jacksonville—Seminole Products Co., capital \$400,000, inceptd. with L. R. Nordquest, Prest.; Harry W. Mills, Secy.-Treas.

W. Va., Clarksburg—Biddle Concrete Co., C. C. Floyd, Prest., increased capital to \$150,000.

Cotton Compresses and Gins.

Tex., Ennis—W. A. J. Hodo will rebuild burned gin, 5-80 outfit, either steam or oil engine power; ordinary construction; will open building proposals in about six months.

Tex., Hamlin—Slaton Gin Co., capital \$13,500, inceptd. by P. F. Slaton, T. A. Baker.

Tex., Houston—Shippers' Compress Co., Kenneth E. Womack, Secy., purchased plant of Nelma-Kehoe Compress and Warehouse Co. on Houston ship channel; will improve plant, construct wharf, etc.

Tex., Schwartz—Lone Star Gin Co., capital \$15,200, inceptd. by William Schultz, Gus Leick, Adolph Weyel.

Drainage Systems.

Fla., Plant City—Plant City and Blackwater Creek Drainage Dist., George H. Wilder, Temporary Chrmn., contemplate establishing drainage system; preliminary plans by McElroy Engineering Co., Tampa, Fla.

Miss., Greenwood—Dobbs Ferry Drainage Dist. Supvrs. created drainage district embracing territory between the Yalobusha and Tallacatchie rivers; build levees, etc.

Miss., Shelby—Northern Drainage Dist. Comms. For full details see Mch. Wanted—Drainage.

Miss., Tunica—McKinney Lake Drainage Dist. For full details see Mch. Wanted—Drainage.

Mo., Kirksville—Brashear Drainage Dist. will construct drainage system, reclaiming 4000 acres; soon ask bids; C. A. Jacoby, Engr., 527 Shukert Bldg., Kansas City, Mo.

Mo., Macon—Macon County Levee District plans drainage system, reclaiming 4000 acres; C. A. Jacoby, Engr., 527 Shukert Bldg., Kansas City, Mo.

S. C., Kingtree—Kingtree Drainage Dist. W. H. Nesmith, Chrmn. let contract at \$150,000 to E. J. Dorn, Mason, Mich. to construct drainage canals. (Bids lately noted.)

Tex., Victoria—Victoria County Drainage Dist. No. 4. For full details see Mch. Wanted—Drainage.

Electric Light and Power Plants

Ark., Pigot—City contemplates constructing light and power plant. Address The Mayor.

D. C., Washington—Shaw Heat & Light Co., capital \$250,000, inceptd. by Frances D. Shaw, Bernard F. Garvey, Green T. Smallwood.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

Fla., Bradentown—Whitney Curry and D. Hayes, of Southern Utilities Co., interested in development of 2000 ft. of white way in Point Pleasant sub-division.

Ga., Commerce—City Council granted franchise to Georgia Railway & Light Co., Atlanta, Ga. for light and power.

Ky., Hickman—Kentucky Light & Power Co., Hickman, has franchise to operate and maintain transmission line, distance of 22 miles.

Ky., Louisville—City, L. F. Wellman, Mayor, considering installing electric light system.

Ky., Somerset—Parker Electric Mills, Ann Arbor, Mich., will construct hydro-electric plant; cost about \$500,000; Associated Engineering Co., Engr.

La., Rayville—City plans to install electric plant, will vote on \$150,000 bonds. Address The Mayor.

Md., Hagerstown—City will construct electric power plant on Antietam Creek, initial capacity of 3000 K. W.; cost \$400,000; Maryland P. Osborn, Stock Exchange Bldg., Phila., Consol. Engr. (Lately noted).

Md., Kitzmiller—West Maryland Power Co., authorized by Public Service Comsn., to furnish electricity in town.

Miss., Utica—For full details see Mch. Wanted—Water Works and Electric Light System.

Mo., Kirksville—Kiwanis Club interested in establishing white way.

Mo., Moberly—City considering installation of white way from Johnson street to East Park school; cost about \$7000. Address The Mayor.

Mo., Vandalia—Missouri Utilities Co., Mexico, Mo. will rebuild substation, burned at loss of \$6000.

N. C., Davidson—For full details See Water Works.

N. C., Mooresboro—Sandy Run Electric Co., capital \$50,000, incptd. with Dr. C. F. Gold, Prest., Ellenboro; Less Hamrick, Secy.-Treas., Latimore; to furnish electric power for Ellenboro, Latimore, Mooresboro, and Bolling Springs.

N. C., Wilmington—Tucker & Laxton, Charlotte, N. C., have contract for extension of mains and change of intake at water works, cost \$250,000; Carolina Engineering Co., Engrs., Wilmington, N. C. (Lately noted.)

Okla., Duncan—City will construct electric plant and distributing system; will vote on \$200,000 bonds. Address The Mayor.

Okla., Sapulpa—City contemplates installing lighting system in business district. Address The Mayor.

Okla., Tipton—Tipton Power & Light Co., will install additional equipment.

Okla., Wann—C. R. Long Electric Co., will construct power plant.

S. C., Ridgeway—For full details See Water Works.

Tex., Cuero—Cuero Light & Power Co., will expend \$75,000 for extensions to electric power plant and system.

Tex., El Paso—C. H. Kirkland, Chmn. of Forum Lighting Committee interested in installing lights on various streets.

Tex., Fabens—City will install electric lighting system. Address The Mayor.

Tex., Valley Mills—Common Council, Roy S. Pool, Secy., will construct light and power plant.

Tex., Yorktown—Texas Central Power Co. is receiving bids for construction of brick, concrete and steel plant.

Tex., Yorktown—Yorktown Light & Ice Co., Mr. Wilkes, Mgr. will construct electric light and power line from Cuero to Yorktown and from Yorktown to Nordheim.

Va., LaCrosse—LaCrosse Light & Power Co., capital \$5000, incptd. with O. F. Northington, Prest.; E. D. Nash, Secy.; to distribute power for lighting and power in Brunswick and Mecklenburg counties.

Va., Norfolk—Monticello Ave. Improvement League will install ornamental lighting system.

Foundry and Machine Plants.

Fla., Jacksonville—Machine Shop—P. H. Palmer Co., incptd. with P. H. Palmer, Prest.; Charles Atkins, V.-P. and Treas.; establish machine shop for marine mch.

Mo., Kansas City—Machine Tools, etc.—Hillman-Ayers Mfg. Co., incptd. by W. B. Laughlin, J. P. and A. A. Hillman.

Mo., Kansas City—Firearms, etc.—Winchester-Simmons Co., St. Louis, Mo., capital \$1,400,000, incptd. to handle the proposed distributing branch; will either build or lease plant, building with approx. 120,000 sq. ft. floor space desired; estimated cost \$750,000. (Lately noted.)

Tenn., North St. Elmo, P. O. Chattanooga—Rabe Pipe & Foundry Co., R. R. Rabe, Prest.-Gen. Mgr., will erect 100x150-ft. plant addition, consist in adding four sections to main foundry building, increasing daily capacity to 100 tons.

Gas and Oil Enterprises.

Ala., Montgomery—Woco Pep Co., H. H. Gardner, Prest., lately noted incptd. with \$20,000 capital, will construct storage tanks, 65,000 gal. capacity, cost of equipment \$10,000.

Fla., Bradentown—Texas Oil Co., will construct sheet iron warehouse, 25x70 ft.; one story; garage, 25x30 ft. and pump house 12x12 ft.; install oil distributing plant.

Fla., Tampa—Tampa Gas Co., Roscoe Nettles, Mgr., will improve plant; install additional mch.

Ky., Monticello—J. C. Denny Oil & Gas Co. increased capital to \$60,000.

Mo., Kansas City—Monark Gas & Oil Co., 1714 Guinotte Ave. will construct 1 story tank house; cost \$20,000.

Okla., Ardmore—Westmoreland Oil Co., capital \$28,000, incptd. by W. B. Royer, F. M. Adams, E. H. Royer.

Okla., Okmulgee—Independent Oil & Gas Co. considering increasing capital to \$10,000,000.

Okla., Pauls Valley—Texas & Pacific Coal & Oil Co. will construct 6-in. pipe line, reported to construct plant either at Davis or Pauls Valley.

Tex., Austin—Capitol Oil Co., organized with P. E. Suehs, Prest.; A. W. Spreckels, Secy.-Treas.

Tex., Amarillo—Groom Oil Corp., capital \$100,000, incptd. by H. H. Temple, J. L. Williams, S. T. Nesbit.

Tex., Dallas—Trinity Investment Co., incorporated by J. B. Martin, S. M. Leslie, H. H. Benton.

Tex., Gorman—Eastland County Gasoline Co., lately noted incptd. with \$105,000, by J. T. Purdy and others will construct 3 unit plant with refinery of 5000 gal. capacity; cost \$75,000; install compressors, stills, high and low pressure pumps pipe ranging from ½ to 20"; steel buildings, storage tanks, etc.

Tex., Humble—Star Oil Corp., capital \$250,000, incptd. by J. S. Dickson, H. A. Clary.

Tex., Sour Lake—Messec Oil Co., capital \$20,000, incptd. by D. G. Messec, N. T. Orr, I. G. Messec.

Tex., San Antonio—Nacogdoches Oil & Refining Co., capital \$30,000, incptd. by J. C. Boles, J. R. Boles, J. C. Evans.

Tex., Temple—Central Producers Co., capital \$51,500, incptd. by Joe Stahl, R. K. Boettcher.

Tex., Tyler—Tyler Gas Service Co., capital \$10,000, incptd. by A. P. Baldwin, C. L. Burger, H. C. Osborn.

Va., Roanoke—Magic City Oil & Gas Corp., capital 200,000, incptd. with J. H.

OPPORTUNITIES FOR NEW BUSINESS

THROUGH THE

DAILY BULLETIN

Manufacturers of Machinery and Equipment, Dealers in Railroad and Contractors' Supplies, as well as Architects, Contractors and Builders, find it very profitable to follow up the advance news furnished through our DAILY BULLETIN EVERY BUSINESS DAY IN THE YEAR. It is an authoritative, prompt source of information concerning every industrial and railroad undertaking of any consequence, and likewise all important building operations and municipal improvements in the whole South. The opportunity of getting in correspondence with firms that are in the market is afforded by a daily perusal of its columns.

MANUFACTURERS RECORD

BALTIMORE, MD.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

Ice and Cold-Storage Plants.

Fla., Daytona Beach—Peninsular Ice & Cold Storage Co., capital \$200,000, inceptd. with Guy G. Bailey, Prest.; K. Ponsang, Secy.-Treas.; let contract to erect plant, daily capacity 15 tons; contract for cement block work let to N. J. Brandigee.

Fla., Wauchula—J. A. Harvey, Kinston N. C. interested in establishing ice and cold storage plant.

Mo., Kansas City—Alpine Ice & Fuel Co., capital \$194,000, inceptd. by C. H. Blaske, M. A. Bruce and others.

Va., Norfolk—City let contract at \$56,500 to C. V. Hill & Co., Trenton, N. J. to install refrigeration system with accessories in new municipal market.

W. Va., Clarksburg—Clarksburg Ice & Storage Co. plans building 1 story, 50x120 ft. ice plant; approx. cost \$50,000. (Lately noted increased capital to \$200,000).

Iron and Steel Plants.

Ala., Gadsden—Great Southern Steel Co. reported to consolidate with White Syndicate and the Etowah Syndicate; has 400 acres land on Lookout and Sand mountains; will develop; capital under merger agreement about \$250,000,000. (Previously noted.)

Tenn., Chattanooga—Southern Sheet Steel Co., capital \$1,100,000, organized with W. M. Blecker, Prest.; W. J. Lynch, V.-P. and Gen. Mgr., plans erecting plant, consisting of an eight-sheet mill plant and three 60-ton open hearth furnaces; estimated minimum capacity 55,000 tons annually.

Land Development.

Fla., Apalachicola—Wm. Lee Popham will develop 10,000 acres on St. George Island for game reserve; will construct fresh and salt water lakes, etc.

Fla., Bunnell—Patrician Groves Co., capital \$20,000, inceptd. with Claud G. Varn, Prest. and Gen. Mgr.; G. S. Pratt, Secy.-Treas.

Fla., Clearwater—City will establish ball park. Will vote on \$25,000 bonds. Address The Mayor.

Fla., Cutler—Cutler Bay View Co., capital \$150,000, inceptd. with Lee Jutland, Prest.; David T. Lorriaux, Vice-Prest.

Fla., Eustis—Eustis Park Co., capital \$10,000, inceptd. with W. M. Cathrae, Prest.; S. L. Story, Vice-Prest.; E. V. Cartledge, Treas.

Fla., Fort Lauderdale—Beverly Heights Corp., capital \$60,000, inceptd. with M. A. Hoyt, Prest.; L. A. Holland, Vice-Prest.; R. E. Dye, Secy.

Fla., Groveland—Groveland Farms Sales & Development Co., lately noted inceptd. with \$50,000 capital—J. W. Beach, Prest., V. M. Johnson, Secy.-Treas.; A. C. Johnson, V.-P.; will develop 20,000 acres.

Fla., Jacksonville—Agricultural Land Co., capital \$40,000, inceptd. with P. L. Thomas, Prest.; R. R. Mulholland, Vice-Prest.; Ellnor Eames, Secy.

Fla., Miami—Riverside Real Estate & Mortgage Co., capital \$25,000, inceptd. with John T. Vickery, Prest.; Clifford A. Vickery, V.-P.; Robt. E. White, Secy.-Treas.

Fla., Miami—Pramer Realty Co., capital \$20,000, inceptd. with S. A. Pramuk, Prest.; W. I. Peters, Vice-Prest.; D. J. Hefferman, Secy.

Fla., Nocatee—Nocatee Groves Co., capital \$500,000, inceptd. with L. E. Fosgate, Prest.; W. M. Cathrae, Vice-Prest.; C. D. Couch, Treas.

Fla., Orlando—Guernsey-McCormick Co., capital \$100,000, inceptd. with S. Kendrick Guernsey, Prest.; E. M. McCormick, Vice-Prest.; Joe M. McCormick, Secy.-Treas.

Ky., Louisville—Southern Development Co. 2115 Frankfort Ave., lately noted inceptd. with \$6300 capital, organized with Robt. W. Fallis, Prest.; A. H. Kornfeld, Treas.; J. A. Thomas, Secy.; develop small tracts for homesites.

Ky., Louisville—James T. Taylor Real Estate Co., capital \$5000, inceptd. by James T. Taylor, Harrods Creek; W. W. Spaulding, J. R. Ray both of Louisville.

N. C., Charlotte—E. S. Draper, Landscape Archt. and City Planner, 11 E. 5th St., has been retained for the following work: to develop complete plans for improvements and extension to campus of Fletcher Memorial School, McColl, S. C., including location of buildings for next decade; development of grounds for J. C. Crowell, Myers Park; developing residence grounds for Robt. McCuiston, Winston-Salem; developing complete golf course at Sunsett Park, High Point, N. C.; developing 140 acres on Winston-Salem road for suburban residential site for S. C. Clark, High Point; developing residence grounds for W. J. Roddey, Rock Hill, S. C.

S. C., Wedgefield—Wedgefield Peach Growers Corp., capital \$10,000, inceptd. by H. M. McLaurin, of Wedgefield, and J. Booth of Sumter.

Tenn., Chattanooga—John Parks, Contr., purchased and will develop for homesite about 300 acres of land; will construct streets, install water and sewer system, etc.

Tenn., LaFollette—LaFollette County Club G. B. Gallagher, Prest.; E. L. Salsbury V.-P.; J. B. Minnich, Secy.; will expend about \$6000 in developing 50 acres for golf course; construction in about 6 months; L. J. Sargent, Engr. in charge. (Lately noted.)

Tenn., Memphis—Ben F. James and Park Comsn., interested in developing 150 acres on north side of Wolf River for golf links.

Tex., Corpus Christi—South Corpus Christi Realty Co., A. C. Blake and Charles C. Bugher will develop 12 acres for subdivision.

Tex., San Juan—Valley Citrus Nursery Co., Bank L. Miller, Mgr., will develop 2500 acres in citrus groves. Lately noted. See Mch. Wanted—Nursery Equipment.

W. Va., Fairmont—Curry Cemetery & Memorial Assn., capital \$10,000, inceptd. by Thad Curry of Lost Creek; F. J. Smith and E. C. Curry of Fairmont; W. J. Curry of Shinnston.

W. Va., Wheeling—Wheeling Chamber of Commerce, Harry P. Corcoran, Mgr., interested in development of 100 acres of Wheeling Hill into Park.

Lumber Manufacturing.

Ark., Jerome—Jerome Hardwood Lumber Co., let contract to J. C. Herron & Son, Little Rock, Ark., to build 6 dry kilns; equipment supplied by Standard Dry Kiln Co., Indianapolis, Ind.

Ark., Walnut Ridge—Henry Wrape Co. contemplates establishing additional saw mill.

Ga., Adel—C. W. Carter, contemplates rebuilding lumber mill and power house. (Lately noted burned, loss \$30,000.)

Ga., Savannah—Southeastern Lumber Co., capital \$15,000, inceptd. by R. D. Reid and Frank P. McIntyre; erect and operate saw mills.

La., Crossett—Crossett Lumber Lumber Co. contemplates building lumber mill and power house; approx. cost \$500,000.

Miss., Starkville—E. C. May, West Point, Miss. reported to purchase 1800 acres of hardwood timber; develop.

Miss., Yazoo City—W. S. Dolton Lumber Co., re-organized with W. S. Dolton, Mgr.

Tex., Deweyville—Peavy-Moore Lumber Co., Shreveport, La. let contract to Lufkin Foundry & Machine Co., Lufkin, Tex. to rebuild burned mill. (Lately noted.)

W. Va., Moundsville—Monroe County Lumber Co., capital \$100,000, inceptd. by J. W. Garvin, C. H. Hunter and W. W. Henderson,

Metal-Working Plants.

Ark., Newport—Merryman Stave Bolt Co., organized by R. W. Merryman, Cardwell, Mo., purchased established plant, will operate.

Md., Baltimore—Seaboard Brass & Copper Co., Gay and Water Sts. (previously noted inceptd. capital \$100,000, organized with Brook H. Rollin, Prest.; Hollis F. Bennett, Secy., and C. W. Smith, Treas.

Md., Baltimore—Protector Non-Skid Chain Co. (lately noted inceptd.) organized with O. M. Peters, Prest.-Mgr.; Simon Greenbaum, Secy.; at present product being manufactured by Maryland Metal Products Co., Hagerstown, Md.; probably establish own plant in future.

Mo., St. Louis—Atlas Tack Corp., Fairhaven, Mass. let contract to Widmer Engineering Co., St. Louis, to erect 6 buildings and switch tracks on Union Blvd.; total floor space of plant 100,000 sq. ft.; purchased site; estimated cost \$1,000,000. (Lately noted.)

Mo., Trenton—Jack Screw—A. J. Slonecker, plans organizing company for mfr. of jack screw, etc.

N. C., Dunn—Electrical Switch—Godwin & Williams, capital \$1,000,000, organized by Thomas L. Vaughn and others; mfr. electric switch.

Va., Roanoke—Electric Specialty Corp., capital \$25,000, chartered with Charles H. Goodman, Prest., Roanoke; Charles Ballantine, Secy., Vinton, Va.

W. Va., Huntington—Electrical Specialties—Armstrong Mfg. Co., let contract to C. Harrison Smith to erect addition; double plant's capacity, mfr. hardware and electrical specialties; has increased capital to \$500,000.

Mining.

Ky., Ashland—J. S. Patton, 115 26th St., Catlettsburg, Ky., contemplates developing salt deposits.

La., Monroe—Monroe Sand & Gravel Co., organized by T. E. Stephenson and others; will develop sand and gravel deposits; install mch. (See Mch. Wanted—Rails; locomotive; Shovel (Steam.)

Okla., Miami—H. & H. Mining Co., inceptd. by Jack Hawthorne, North Miami; John A. Robinson, Miami; and Claude Holden, Commerce, Okla.

Va., Patrick County—Mica—J. W. Simpkins, Roanoke, Va. acquired 70 acre tract, will develop, erect mill to pulverize mica; etc.

Miscellaneous Construction.

Fla., West Palm Beach—Terminals—City Comsn. plans construction of municipal terminals; contemplates voting on \$200,000 bonds.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

La., Mooringsport—Dam—Blodgett Construction Co., Shreveport, La. lowest bidder for repairing Caddo Lake dam; estimated cost \$58,511; Major L. M. Adams, U. S. Engr. in charge.

La., New Orleans—Crevasse, etc.—Lake Borgne Basin Levee Dist. Board repairing crevasse damaged by storm, grants, right of way to State Highway Dept. to construct road on top of slope at the Poydras crevasse; also recommends that new 600 ft. levee to be constructed at Monsecur.

La., New Orleans—Facade—Port Comms. —For full details See Machinery Wanted—Facade Construction, etc.

La., New Orleans—Levees Board of State Engrs., 213 New Orleans Courthouse, let following contracts for new and repairs to levees, and 3 sections of highway:

Bohemia to Ostria levee, 16,000 cu. yds. at \$304 to Walter P. Villere.

Bayou Lamoune levee, Plaquemine parish, 11,000 cu. yds. at \$3597 to Walter P. Villere.

Bohemia to Daisy levee, Plaquemine parish, 5000 lin. ft. at \$6500 to Adema & Wise.

Dr. Welsh levee, Plaquemine parish, 10,000 cu. yds. at \$2900 to H. A. Schoenberg.

Live Oak—Reliance Levee Highway, Iberville parish, 5150 ft., containing earth work, drainage, concrete headwalls, etc. at \$2237.50 to H. A. and Charles Terent.

New Eureka Levee Highway, 4800 ft. at \$3215 to H. A. and Charles Terent.

Port Allen Levee Highway, Iberville parish, 12,250 sq. yds. concrete at \$17,150 to Southern Construction Co., Little Rock, Ark.

Md., Salisbury—Drainage—City, contemplates drainage of old Cranbury Bog to eradicate the malaria breeding mosquito; plans by City Engr. Dryden. Address Mayor Kennerly.

Mo., Kansas City—Balustrade—Park Board let contract at \$17,450, to Long Construction Co. for stone balustrades in front of Swope mausoleum.

N. C., Asheville—Swimming Pool—Asheville Country Club, Dr. T. P. Cheeseborough, member of Board of Governors, construct swimming pool.

N. C., Wilmington—Channel, etc.—Major O. O. Kuentz, in charge of local Dist., to estimate cost of surveys of three projects on Cape Fear river as follows: to deepen channel between Wilmington and the bar and also between Wilmington and Navassa to 22 ft. and construct third lock and dam between port and Fayetteville.

Tex., Amarillo—Amarillo Natatorium Co., capital \$40,000, inceptd. by F. S. & E. M. Walker, A. W. Ball.

Tex., Beaumont—Dock Improvements, etc.—City will extend municipal wharf and dock facilities including terminals, docks, warehouses, elevators, loading and unloading devices, terminal railways, etc.; has \$500,000 available. Address The Mayor.

W. Va., Clarksburg—Lake—C. Duffy Floyd, Clay St., will expend about \$35,000 on construction of 35-acre lake stocked with 30,000 bass; also interested in development of summer colony.

Miscellaneous Enterprises.

Ark., Little Rock—Bracy Bros. Hardware Co., will occupy 3 story, 50x140-ft. building at 513 Main St., stone and brick with stone trimmings; to be erected by Herman Kahn; Mann & Stern, Architects.

D. C., Washington—Florist—White, Inc., cor. 14th and H Sts., chartered by George W. White, Elizabeth Laphish and Stanley Konopka.

Fla., Jacksonville—Incinerator—City plans installing incinerator and garbage disposal plant; approx. cost \$17,000. Address The Mayor.

Fla., Lakeland—Publishing—Lakeland Evening Advertiser, capital \$15,000, inceptd. with R. B. Childs, Pres.-Gen. Mgr.; William Steitz, Secy.-Treas.

Fla., Miami—Miami Home Building Co., capital \$50,000, inceptd. with Henry Amidon, Pres.-Treas.; N. C. Keaser, Secy.

Fla., Miami—Mariborough Hotel Corp., capital \$200,000, chartered with P. J. Davis, Pres.; Paul R. Scott, Secy.-Treas.

Fla., Miami—Davis Co-operative Hotel Building Corp., capital \$200,000, inceptd. with P. J. Davis, Pres.; R. W. Edholm, Treas.

Fla., Monticello—Seeds—Haile & Co., capital \$30,000, inceptd. with W. E. Haile, Pres.; W. R. Neal, Secy.-Treas.

Ky., Ashland—Ashland Contracting Co., capital \$40,000, inceptd. by Pete Golden, N. C. Williams and F. P. Salyer.

Md., Adelina—Transportation—School Service Co., inceptd. by George W. Dorsey, Benson C. Hutchins and R. Lee Ogden.

Md., Baltimore—Amusements—Recreation Center Corp., 608 Equitable Bldg., inceptd. by Henry W. Schultheis, Christian Rodekurt and Solomon Friedberg.

Md., Baltimore—Crawford-Reilly Moto. Transfer Co., 1112 Guilford Ave., capital \$10,000, inceptd. by Walter K. Crawford, Wm. E. Reilly and William L. Stukert.

Md., Overlea—Lincoln Highway News Publishing Co., capital \$50,000, inceptd. by Ralph P. Gilmore, E. Cookman Baker and G. Earnest Wolf.

Miss., Vicksburg—Mississippi Transportation Co., 1220 Clay St. (lately noted inceptd. capital \$25,000) organized with Howard W. McCoy, Pres.; Clarence H. McCoy, Secy.-Treas.; has all motor equipment.

Mo., Dallas—Dallas Park Amusement Co., capital \$75,000, inceptd. by Joseph R. Donegan, Harold E. Brett and Roy I. Vickery.

Mo., St. Louis—Schaefer Hotel Supply Co., inceptd. by George E. Briggs, C. K. Urquart and M. S. Edmond.

Mo., St. Louis—Plateless Engraving Co., inceptd. by John J. Metivier, W. D. Bledsoe and others; engraving, embossing and printing.

N. C., Cary—Fire Equipment—For full details see Mch. Wanted—Fire Equipment.

S. C., Charleston—McCrady Construction Co., capital \$20,000, inceptd. with John McCrady, Pres.-Treas.; H. H. McCrady, V.-P. and Secy.

S. C., Greenville—Slaughter House—M. H. Goodlet will erect 2-story, 30x60 ft. brick building, cement floor, metal roof. (Lately noted burned, loss from \$15,000 to \$20,000.)

S. C., Greenville—Abattoir—City contemplates rebuilding abattoir. Address Mayor Harvley.

Tex., Dallas—Padgett Printing Co., capital \$15,000, inceptd. by C. R. Padgett, James Fleetwood and Irving Pierce.

Tenn., Knoxville—Acme Tailoring Co., inceptd. by Charles R. Roberts, Thomas H. Wilcox and B. W. Roberts.

Tenn., Knoxville—Flower Craft, capital \$50,000, inceptd. by Brockway Crouch, C. W. Henderson and D. C. Webb.

Tenn., Nashville—Methodist Publishing House, acquired site for additional building, will move printing plant equipment to new building.

Tex., Amarillo—Fire Alarm System—Chas. Lon D. Marrs, Mayor, will install electric fire alarm system; has \$30,000 available.

Tex., Beaumont—Fire Fighting Equipment—City will improve and extend fire dept., installing additional equipment; has \$75,000 available. Address The Mayor.

Tex., Dallas—Dallas Texas Amusement Co., capital \$50,000, inceptd. by John T. Jones, W. O. Higgins and C. A. Rasbury.

Tex., Elgin—Incinerator—City, W. M. Calvert, Mayor, contemplates building incinerator.

Tex., Fort Worth—Hardware—Southern Mfg. Co. increased capital to \$60,000.

Tex., Fort Worth—Majestic Blueprint Co., inceptd. by L. M. Brady, J. G. Evans and J. G. Griffin.

Tex., Luling—Lulling Amusement Co., capital \$16,000, inceptd. by A. D. Baker, R. T. Clark and H. G. Stein.

Tex., San Antonio—Reagan Wells Mineral Water Co., capital \$100,000, inceptd. by Y. D. Taylor, W. M. Aikman and Ira L. Rupley.

Tex., Waco—Incinerator—See Mch. Wanted—Incinerator.

Va., Altavista—Altavista Seed & Feed Co., capital \$50,000, inceptd. with H. L. Lane, Pres.; C. B. Perrow, Secy.

Va., Harrisonburg—Massanutten Farms Hatchery, capital \$50,000, inceptd. with Edw. C. Nartz, Pres.; G. R. Spitzer, Secy.

Va., Winchester—Amusement Park—John S. Scully purchased Capon Spring summer resort, containing 320 acres; will make improvements.

W. Va., Charleston—Printing—Daily News Co., capital \$50,000, inceptd. by Jack R. Reed, Hinton, W. Va.; H. C. Clark and Edward Salade, both Wheeling, W. Va.

W. Va., Huntington—Incinerator—City Comms. let contract at \$22,900 to Willard Graham to construct municipal incinerator. County will vote Nov. 7 on bonds; Meade Dist. \$80,000; Banks Dist. \$109,000; Union Dist. \$65,000; Warren Dist. \$125,000. Address County Comms.

Miscellaneous Factories.

Ga., Athens—Roofing—Chamber of Commerce interested in establishing \$600,000 branch plant of National Roofing Co.

Ga., Savannah—Savannah Co-operative Creamery, Gratz Dent, County Agt. let contract to Olaf Otto, Savannah, for construction of creamery; 84x108 ft.; fireproof; cost of building \$35,000; cost of mch. \$36,375; address mch. proposals to J. J. Harvey, Bessere & Co., Atlanta. (Lately noted.)

La., Houma—Southern Synthetic Co., organized by Robt. J. Younger, Wm. Cenac, R. E. Griffing, Jr.; will erect plant to mfr. synthetic marble from sea and oyster shells.

La., New Orleans—Choctaw Flavor Co., capital \$10,000, inceptd. with A. Ezra Fazenda, Pres.; M. Birsner, V. P.; August J. Birsner, Secy.-Treas.

Md., Annapolis—Annapolis Dairy Products Co., inceptd. by Howard E. Atterbury, Francis A. Lazenby, Arthur A. Chapin.

Md., Baltimore—Candy—Loft, Inc., New York City, leased building at 227 W. Lexington St., will establish plant to mfr. candy.

Md., Baltimore—New Era Chemical Mfg. Co., 416 Belvedere Ave., capital \$100,000, inceptd. by Richard E. Preece, R. E. Lee Young, Wm. M. Travers.

Md., Baltimore—Dyes, Chemicals, etc.—E. M. and F. Waldo, 904-07 Maryland Ave., capital \$500,000, inceptd. by Edw. M. Waldo, Frank Waldo.

Md., Baltimore—Rice Co., 2410 Woodbrook Ave., inceptd. by Abraham J. Rice, Harold J. Rice.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

Md., Baltimore—Crown Oil & Wax Co., Pratt and Eighth Sts., Wm. G. Crowther, Prest. will rebuild plant burned at loss of \$100,000.

Md., Baltimore—Corkstone Products Corp., 110-121-123 N. Collington Ave., capital \$25,000, inceptd. by Walter K. Crawford, Wm. E. Reilly and Wm. L. Stuckert.

Md., Baltimore—Maryland Bedding Co., Maurice Gordon, Prop., 849 Greenmount Ave. will improve building at 1240-42 E. Fayette St. for mattress and bedding plant; install additional mchy.

Md., Baltimore—Federal Yeast Corp., Colgate Station, inceptd. by Francis W. Little, John H. Hessey, Sidney A. Goodman.

Miss., Moss Point—Southern Paper Co., E. H. Mayo, Gen. Mgr., will enlarge power plant, paper and pulp mfg. plant, increasing capacity to 100 tons of paper.

Miss., Union—C. E. Johnson, Prest. of company organized to erect rebolling station for blue cane molasses; cost \$25,000; construction begun.

Mo., Centalla—Hamilton-Brown Shoe Co., of St. Louis, considering erection of branch plant.

Mo., Kansas City—Lavex Chemical Co., capital \$50,000, inceptd. by W. R. Smith, Reynolds Barnum, O. E. Barnum.

Mo., Kansas City—Powder—Great Eastern Mills, Pittsburgh, Pa., has building, will establish powder plant.

Mo., Shelbina—Jeff & Tuttle will establish creamery.

S. C. York—Shieder Drug Co., capital \$10,000, inceptd. by D. J. Shieder, Prest.; Quinn Wallace, V. P.

Tenn., Chattanooga—Good Grape Corp., capital \$500,000, inceptd. by M. S. Wood, F. L. Underwood, J. L. Foust; will install bottling plant.

Tex., Houston—National Drug Co., capital \$500,000, inceptd. by Dr. T. S. Tusa, D. M. Irie, C. C. Rous.

Tex., Houston—Rubber Goods—Walter D. Rogers, Trustee, 708 Clark St., organizing company to mfr. seamless rubber goods, gloves, balloons, etc.; will install mchy. ovens, dipping machine and forms, new or used. (See Mchy. Wanted—Machinery (Rubber Goods; Ovens; Dipping Machine; Forms.)

Va., Alexandria—Beverages, etc.—American Products Corp., capital \$100,000, inceptd. by Geo. S. Groves, Prest.; Mount Ida; Edgar M. Slayton, Secy.

Va., Alexandria—Federal Battery Co., Washington, acquired building will increase capacity.

Va., Norfolk—Gener-O-Corporation, capital \$25,000, inceptd. with W. R. Fleming, Prest.; H. W. Dickerson, Secy.

Va., Richmond—Fiber Board Container Co. will rebuild plant burned at loss of \$100,000.

W. Va., Princeton—T. M. Fry interested in organizing company with \$10,000 capital to establish butter and ice cream plant. Lately noted (See Mchy. Wanted—Ice Cream Mchy.)

W. Va., Wheeling—Dairy Products Co., capital \$50,000, inceptd. by R. J. Hersey, W. L. Abersold, Marie Cameron.

Motor Cars, Garages, Tires, Etc.

Md., Baltimore—Garage—Weldon B. Wood, Bellevue and Granada Aves. will erect 2 story garage and 2 story dairy building cor. Garrison Blvd. and Dolfield Ave.; cost \$25,000.

La., New Orleans—New Orleans Chevrolet Sales Co., George W. Stem, Prest.; acquired local factory branch of Chevrolet Motor Co.

Md., Baltimore—Modern Tire Co., 8 W. Oliver St., inceptd. by J. Henry Clausman, Katherine M. Underwood and Ethel Davis.

Mo., Carthage—Tallman Vulcanizing Co., will occupy building to be remodeled by O. E. Proctor and A. F. Carmean.

Mo., St. Louis—Diamond T. Motor Car Co., inceptd. by C. A. Tilt, Ira C. Darling and Peter S. Theurer.

Mo., St. Louis—Union Motor Car Co., inceptd. by W. P. Lupfer, Peter A. and Walter J. Bernard.

Mo., St. Louis—Grinham-Johnson Motor Sales Co., capital \$250,000 inceptd. with Fred Grinham, Prest.; S. S. Boyle, Secy.

N. C., Walnut Cove—Garage—John Baily, Jr., will probably erect garage building.

S. C., Aiken—Filling Station—Standard Oil Co. of New Jersey, acquired site cor. Curve St. and Pendleton Ave., will erect filling station.

S. C., Gaffney—Phillips Filling Station, Carroll Phillips, Mgr., will erect brick addition to filling station.

Tex., Dallas—Perry Motor Co., 2508 Florance St., erect \$7500 brick addition.

Tex., Fort Worth—Denman Tie Co., inceptd. by R. T. and O. H. Denman, Lem Hinton.

Tenn., Knoxville—Garage, etc.—Chandler & Co., will erect 1 story, brick and concrete garage, filling station and warehouse at 412 W. Park Ave.; approx. cost \$12,000.

Tenn., Memphis—Universal Motor Co., 963 Union Ave., let contract to J. W. Rogers to erect 1 and 2 story, 96x150-ft. brick garage and sales room at 234 Jefferson Ave. (Lately noted.)

Tex., Yoakum—Garage—Tribble Bill Posting & Advertising Service, C. C. Tribble, will erect fireproof garage; approx. cost \$10,000.

Va., Portsmouth—Ideal Motor Service Corp., capital \$20,000, chartered with J. M. Vining, Prest.; Martha B. Ricks, Secy.

W. Va., Berkeley Springs—Garage—H. M. Ruppenthal will erect 1 story, 100x50-ft. public garage; A. J. Klinkhart, Archt., 54 W. Washington St., Hagerstown, Md.

W. Va., Clarkburg—Carmichael Motor Co., will erect 2 story and basement, 126x82½-ft. building, steel, tile and brick construction; concrete floors; steam heat; estimated cost \$65,000. Supersedes recent item. (See Machinery Wanted—Steel.)

W. Va., Huntington—Dave Gideon will erect garage with 4200 ft. floor space; brick, concrete and steel construction; to be leased by post office department; Frank Huff, garage Supt.

Railway Stations, Sheds, Etc.

Ky., Atkinson Junction—Louisville & Nashville R. R. Co., W. H. Courtenay, Chief Engr., Louisville, Ky., will remove car repair shops from Earlinton, Ky.

Railway Shops, Terminals, Roundhouses, Etc.

Ky., Paducah—Illinois Central R. R. Co., E. L. Thompson, Chief Engr., Chicago, Ill. reported to make extensive shop improvements.

Tex., Brownsville—Gulf Coast Lines, C. S. Kirkpatrick, Chief Engr., Houston, Tex., will move shops and roundhouse from Victoria, Tex.; acquired 30-acre site.

Tenn., Leewood, P. O. Memphis—Louisville & Nashville R. R., W. H. Courtenay, Chief Engr., Louisville, Ky., will erect roundhouse, switch tracks and car repair shop; estimated cost \$250,000; also contemplate building coal-lng plant.

Road and Street Construction.

Alabama—State Highway Dept., Montgomery, Ala., plans following:
Winston County, road from Double Springs to Haleyville.

Lee County, from Opelika to Tallapoosa County line, near Waverly; W. S. Keller, State Highway Engr., will invite bids.

Ala., Anniston—Calhoun County Commrs., Wood H. Hanna, Prest., let contract to Nixon Transfer Co., Anniston, to place chert on Anniston-Hedlin road in County.

Ala., Birmingham—City, A. J. Hawkins, Engr., let contracts for following:

Pave Pearson Ave. from Poplar St. to Berney Station; to Southern Roads Co., at \$38,961.45.

Pave street between car tracks; to Birmingham Ry., Light and Power Co., at \$53,625.

Ave. W. Ensley; to H. N. Bowdry, at \$30,703.90; for paving between car tracks to Birmingham Ry., Light and Power Co., at \$7685.

4th Ave. West; to H. N. Bowdry, at \$5099.25.

17th St. Southwest and Randolph Ave., to J. F. Morgan Paving Co., at \$6818.45. (Lately noted.)

Ala., Birmingham—State Highway Dept., Montgomery, Ala., plans extending Bankhead Highway from Leeds, Jefferson County, to bridge over Coosa River, connecting with roads of Talladega County.

Ala., Birmingham—Jefferson County Board of Revenue. For full details see Mchy. Wanted—Paving.

Ala., Gadsden—City, Mayor Burns, plans improving Kyle Ave. as part of project to build paved road connecting Gadsden, Alabama City and Attalla; Federal and State aid.

Ala., Oneonta—Blount County plans 16 mi. road between Village Springs and Oneonta; bids in about 30 days; State Aid Project. Address County Commrs.

Ark., Hot Springs—E. J. Fowler, City Clk., plans laying sidewalk and curb on Garland Ave. from 3rd to 6th Sts.; Harry A. Jones, Mayor.

Ark., Little Rock—City. For full details see Mchy. Wanted—Paving.

D. C., Washington—Dist. Commrs., let contract to Warren F. Brenizer Co., 101 New York Ave., N. E., Washington, D. C., at \$22,000, to lay 12,500 sq. yds. 2 course cement sidewalks; C. B. Hunt, Highway Engr., Washington. (Lately noted.)

Fla., Daytona—W. B. Hodges, City Mgr., let contract to David R. Barnhart to widen pavement and lay curb on Magnolia Ave. between Beach St. and Palmetto Ave.; 6-in. concrete.

Fla., Jacksonville—Duval County Commrs. For full details see Mchy. Wanted—Road Construction.

Fla., Jacksonville—Duval County Commrs. plans repaving bridges, etc., on Deep Bottom Road, in Mandarin section.

Repair Gainesville road; C. S. Coe, County Engr.

Fla., Punta Gorda—City Commn., plans paving Olympia Ave. and 25 streets connecting Olympia with Marian Ave.; 20-ft. shell paving; concrete curbing.

Fla., Tavares—State Highway Dept., Tallahassee, Fla. For full details see Machinery Wanted—Bridge Construction.

Fla., Tavares—Lake County will surface with sand-clay, 2 mi. Emerald and Lisbon roads; Address County Commrs.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

Fla., West Palm Beach—Palm Beach Com. Commrs., Hector Harris, Chrmn., plans following roads:

17 mi. from Belle Glade to Lee County line; \$221,000.

20½ mi. from bend in West Palm Beach Canal to Canal Point; \$225,000.

1½ mi. from Glacrest to cross-state highway; \$16,500.

9 mi. from Kramer Island to Belle Glade; \$126,000.

8½ mi. from Pahokee to Kreamer Island; \$127,000.

2½ mi. from Bacoms Point to connection with Pahokee road; \$35,000.

6¼ mi. from Gardenia to connection with cross-state road on bank of Miami Canal; \$71,500.

9 mi. from Okeelanta to Glacrest; \$78,000.

Military Trail-Lake Worth road and bridge over West Palm Beach canal; \$35,000.

Georgia—State Highway Dept., Atlanta, Ga., will build 2 roads. For full details see Mch. Wanted—Road Construction.

Ga., Augusta—City. For full details see Mch. Wanted—Paving.

Kentucky—State Highway Comsn., Frankfort, Ky., let contract to Metzel & O'Hearn, Covington, Ky. for 12.8 mi. Barbourville-Pineville road, from Barbourville toward Pineville; Knox and Bell Counties. (Lately noted.)

Ky., Earlinton—City plans expending about \$50,000 for paving, curb and gutter; H. C. Griffin, Engr., Madisonville, Ky.

Ky., Greenville—Muhlenburg County will build 5 roads as follows:

From Greenville to Christian County line.

From Greenville to Todd County line;

State Projects include following roads:

From Greenville to Butler County at

Rochester.

From Central to Logan and Ohio Counties respectively; vote in Nov. on \$500,000 bonds, state projects to require \$316,000. Address County Commrs.

Ky., Hazard—Perry County Fiscal Court, J. A. Smith, County Judge, will improve roads; vote No. 7 on \$500,000 bonds. (Lately noted.)

Ky., Lancaster—Garrard County plans building State road from Madison County line to Lancaster; \$192,000 bond issue available. Address County Commrs.

La., Bastrop—Morehouse Parish Police Jury plans building 143 mi. roads; vote Dec. 16 on \$1,150,000 bonds; Road Dist. No. 1 on \$329,700; Road Dist. No. 2 on \$820,300.

La., Lake Charles—Calcasieu Parish Police Jury is reported planning to hard surface Vinton Highway from Lake Charles to Sabine River, Orange, Tex.

Maryland—State Roads Comsn., 601 Garrett Bldg., Baltimore, Md., will build 8 roads. For full details see Mch. Wanted—Road Construction.

Md., Baltimore—Board of Awards, Wm. F. Broening, Prest., received bids for about 7000 sq. yds. concrete roadways at Back River Sewage Treatment Plant; Sanitary Contract No. 189; low bidder, Edward R. McKenroth, 81 W. West St., Baltimore, Md., at \$25,128.75; Milton J. Ruark, Div. Engr. of Sewers. (Lately noted.)

Md., Baltimore—City, Dept. of Public Improvements, has tentative plans for opening Division St. between Hoffman and St. Mary Sts.; also plans widening Division St. to 66-ft. between Lafayette Ave. and Hoffman St.; Henry G. Perring, Ch. Engr.

Md., Baltimore—City, Paving Comsn., R.

Keith Compton, Chrmn., plans paving Blythewood road from Charles St. to Wyndhurst Aves.; 50-50 basis with Blythewood Co.

Miss., Jackson—A. J. Johnson, City Clerk, will pave Adams St. from Capitol to Pearl, M. L. Culley, City Engr.; bids opened.

Miss., Pascagoula—City plans paving improvements; authorizes issuing \$22,000 bonds. Address The Mayor.

Miss., Vicksburg—Warren County plans completing north and south scenic highways in County, connecting Vicksburg with Issaquena County on north and Claiborne County on south.

Will build gravel highway from Vicksburg to Haynes Bluff, on north; State Highway Comsn., granted \$50,000 aid.

State Highway Comsn., also granted \$50,000 air for road to Hankinson's Ferry.

Missouri—State Highway Dept., Jefferson City, Mo., plans following improvements:

Build 5 mi. road on Brazito road.

Resurface St. Louis road from Moreau Bridge to Osage Bridge.

Will invite bids soon for 5 mi. road, from limits of Jefferson City Special Road Dist. to point near Fish Trap Bridge; also construct concrete bridge over Neighorn branch.

Missouri—State Highway Dept., Jefferson City, Mo., let contracts for following:

12.32 mi. State road from Gallatin southward and northeastward; Davies County, State Aid Project No. 20,206; to capitol Construction Co., Des Moines, Ia.

10.60 mi. State road from Kansas City to Liberty; one course concrete pavement; Clay County, Federal Aid Project No. 99; to American Paving Co., Omaha, Neb. (Lately noted.)

Mo., Albany—State Highway Dept., Jefferson City, Mo., let contract to E. L. Meek & Co., Kansas City, Mo., at \$82,691, for 3.680 mi. State road from King City to Stanberry; penetration macadam; Gentry County, Federal Aid Project No. 54.

Mo., Alton—State Highway Dept., Jefferson City, Mo., let contract to Will F. Plummer, Inc., Springfield, Mo., at \$33,000, for 5 mi. road between Elevenpoints River and Alton, Oregon County, also concrete bridge on State road from Alton to Ripley County line; J. H. Long, Div. Engr., Willow Springs, Mo.

Mo., Bolivar—State Highway Dept., Jefferson City, Mo., let contract to M. B. Gilloz, Monett, Mo., at \$30,590 for 5 mi. State road from Humansville north and south; gravel surfacing; Polk County, State Project, Route 13, Sec. 6. (Lately noted.)

Mo., Cameron—City. For full details see Mch. Wanted—Paving.

Mo., Cameron—City let contract to Cook-O'Brien Construction Co., Kansas City, Mo., to grade, pave and curb Main St. between 2nd and 3rd Sts. Address The Mayor.

Mo., Chillicothe—Livingston County Commissioners, let contract to E. P. Olsen Construction Co., St. Joseph, Mo., at \$25,143.78 for 6 mi. road from point north of Chillicothe to Livingston-Grundy County line; State Road Project No. 20,193. (Lately noted.)

Mo., Hartsville—State Highway Dept., Jefferson City, Mo., let contract to Summerfield-Jones Co., Springfield, Mo., at \$39,959, to gravel section of road between Mansfield and Cedar Gap; 16-ft. wide; 11-in. deep; J. H. Long, Div. Engr., Willow Springs, Mo.

Mo., Jefferson City—City let contract to Joseph Pope to improve Jefferson St. from McCarty St. to Swift's Highway. Address The Mayor. (Lately noted.)

Mo., Kansas City—City let contract to pave 27th St. through Spring Valley Park, from

Highland to Michigan Aves. Address The Mayor.

Mo., Kansas City—City, Park Board, let contract to National Construction Co., to grade Swope Park; estimated cost about \$10,000.

Mo., Platte City—State Highway Dept., Jefferson City, Mo. For full details see Mch. Wanted—Road Construction.

Mo., Mexico—City, R. S. McKinney, Engr., let contract to S. S. Harrison, Auxvasse, Mo., to macadamize and curb E. Liberty St. (Lately noted.)

Mo., St. Louis—City, Board of Public Service plans 541,758 sq. yds. paving, and 110,757 cu. yds. grading; bids in about 3 months; W. M. Horner, City Engr.

N. C., Asheville—Buncombe County Commrs. plans improving Sam Branch road.

N. C., Charlotte—State Highway Comsn., Raleigh, N. C., plans hard surfacing 7 mi. Lawyer's road, including 5 mi. grading; 180-ft. asphalt concrete or concrete construction. (Lately noted.)

N. C., Spring Hope—City. For full details see Mch. Wanted—Paving.

N. C., Thomasville—City. For full details see Mch. Wanted—Paving and Sewer Construction.

N. C., Wilmington—City, R. C. Cantwell, Commr. of Public Works, plans 80,000 yds. street paving; asphalt and brick; \$200,000; Carolina Engineering Co., Engr., Wilmington. (Lately noted.)

Okla., Ardmore—Texas-Kansas-Oklahoma Highway Assn., organized with J. D. Morse, Oklahoma City, Prest., interested in building 335 mi. hard surfaced road from Wichita to Fort Worth, through Oklahoma City.

Okla., Enfauila—McIntosh County Commrs., let contract to Salina Gravel Co., Muskogee, Okla., at \$25,000 to resurface 22.40 mi. Jefferson Highway through County; asphalt and gravel.

Okla., Madill—City Commrs. let contract to M. R. Ammerman, Wichita, Kan. for 110,000 sq. yds. or 110 blocks paving.

Okla., Muskogee—R. P. Harrison, City Mgr., let contract to Tibbetts and Pleasant, Tulsa, Okla., at \$42,000 to pave 26th St. from Okmulgee Ave. to Columbus St.; Boston Ave. from 24th to 27th Sts.; Columbus St. from 23rd to 26th Sts.; Garland Ave. from 21st to 24th.

Okla., Okemah—U. S. Bureau of Public Roads, Washington, D. C., approved plans for building road extending from Okemah to Okmulgee County line; Okfuskee County, Project No. 64.

Okla., Pawhuska—City Commrs. For full details see Mch. Wanted—Paving.

S. C., Charleston—South Carolina Good Roads Assn., Gilmore Smith, Prest., interested in building concrete highway between Charleston and Savannah, Ga.

S. C., Greenville—City will extend N. Main St. to city limits. Address The Mayor.

S. C., Union—City Comsn., let contract to Southern Paving and Contracting Co., to improve streets; plans voting on \$150,000 bonds. (Lately noted.)

S. C., York—York County Commrs. let contract to J. L. Carroll, for 3 mi. York-Smyrna road between Bullock's Creek and Sharon; Federal Aid Project No. 186. (Lately noted.)

Tenn., Bristol—City contemplates improving certain streets in residential section, including laying asphalt on Windsor Ave. Address The Mayor.

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Tenn., Chattanooga—For full details See Land Development.

Tenn., Chattanooga—Hamilton County, Sam Conner, County Judge, plans re-grading and surfacing with chert and oil, road from Valdeau to Glendale.

Tenn., Cleveland—Bradley County plans building concrete road from Cleveland to Hamilton County line; \$30,000. Address County Commrs.

Tenn., Huntingdon—State Highway Dept., Nashville, Tenn., plans awarding contract soon to grade and build Huntingdon-McKenzie link in Reelfoot-Nashville highway, Carroll County.

Tenn., Knoxville—North Knoxville Business Men's Club, interested in constructing bridge on Broad St., extending from present Oak St. bridge to Depot St.

Tenn., Knoxville—City Comsn., plans paving E. Magnolia Ave. from Gay St. to viaduct near car barns.

Tenn., Memphis—State Highway Dept., Nashville, Tenn., contemplates awarding contract to grade and build Memphis-Bristol line west of Huntingdon, to Millan.

Tex., Angleton—Barzoria County plans State Highway No. 19 through Road Dist. No. 16; State Highway Comsn., Austin, granted \$130,000 aid; Address C. D. Jessup, County Judge.

Tex., Arlington—City will build road from Abrams St. to Grubbs Vocational College, Tarrant County Commrs. Court furnishes \$4500 aid. Address The Mayor.

Tex., Bay City—Matagorda County Commissioners Court will improve roads; plans voting on \$2,000,000 bonds.

Tex., Beaumont—Geo. J. Roark, City Mgr., will pave Gulf St. from Concord road to fair grounds; will improve and extend streets and highways; has \$350,000 available.

Tex., Beeville—Bee County let contract to Chapin Colglazier Co., San Antonio, to asphalt top 42 mi. highway through County; lay concrete curb on each side. Address County Commrs.

Tex., Center—Shelby County will build 6 mi. 16-ft. gravel road on State Highway No. 5, in Timpson Road Dist.; \$85,000; will invite bids soon; D. R. Taylor, County Judge, Center; I. R. Titus, County Engr., Timpson, Tex. (Lately noted.)

Tex., Cleburne—Johnson County plans 10.9 mi. Cleburne-Itasca Highway, State Highway No. 2-E, from Cleburne to Hill County line; gravel surface, bituminous topping; \$155,000; C. C. Chrisman, County Judge; G. W. Courter, County Engr.

Tex., Cleburne—Defrank Howell, Mayor plans laying permanent paving on Main St.; contemplates issuing \$160,000 bonds. (Lately noted.)

Tex., Coleman—Coleman County, will build 3 roads. For full detail see Mch. Wanted—Road Construction.

Tex., Corpus Christi—Nueces County Commrs. let contract to Uvalde Rock Asphalt Co., Cline, Tex., to lay 1-in. topping on roads in Precincts Nos. 2 and 4.

Tex., Corsicana—Navarro County plans 7.71 mi. 16-ft. macadam road on State Highway No. 31; \$80,018. Address A. P. Mays, County Judge, or McClendon & Purnell, County Engrs., Corsicana.

Tex., Daingerfield—State Highway Dept., Austin, approved plans for 2.81 mi. 16-ft. gravel road from Naples to Cass County line; Morris County, Federal Aid Project No. 314; \$37,200; 50% Federal Aid granted; J. W. Carson, County Judge, Daingerfield; Jas. W. Curnutte, County Engr., Sims, Tex.

Tex., El Paso—City, Martin Sweeney, Alderman, purchased 7½ acres south of Mountain Park for roadway to park; plans extending Baltimore St. through annexed territory to park.

Tex., Fort Worth—Tarrant County, W. E. Yancey, County Auditor, plans grading and graveling 10.31 mi. road from Mansfield-Cardinal road to Fort Worth-Mansfield road; bids opened Oct. 26.

Tex., Fort Worth—Tarrant County. For full detail see Mch. Wanted—Paving.

Tex., Huntsville—City let contract to W. A. McClendon, Houston, Tex., at \$28,000, to pave Main St. from Sam Houston Normal College to Public Square; reinforced concrete blocks; Cecil Adickes, City Engr.

Tex., Georgetown—Williamson County. For full details see Mch. Wanted—Road Construction.

Tex., Jourdanton—Atascosa County plans 1.7 mi. gap on San Antonio-Pearsall Road, State Highway No. 2, through County; bituminous macadam surface; \$26,050; Address T. R. Spence, State Div. Engr., care of Chamber of Commerce, San Antonio, or W. R. Hill, County Judge, Jourdanton.

Tex., Laredo—City plans grading, paving and curbing 8 mi. various streets; bituminous top; concrete base; S. F. Crecelius, Engr.

Tex., McKinney—Collin County Commrs., T. O. Murray, County Judge, will build 40 mi. hard surface and gravel roads in County; \$350,000 available; F. W. Cawthon, County Engr.

Tex., Palo Pinto—Palo Pinto County. For full details see Mch. Wanted—Road Construction.

Tex., Pecos—State Highway Dept., Austin, approved plans for 4.54 mi. 16-ft. gravel road on State Highway No. 27, Reeves County; \$32,000; J. F. Ross, County Judge, Pecos; A. J. Adecock, County Engr., Balmorhea, Tex.

Tex., Rio Grande—Starr County plans 4.70 mi. 16-ft. gravel road on State Highway No. 12 from Hidalgo County line to Zapata County line; H. Garza, County Judge; H. P. Devine, County Engr.; State Aid asked.

Tex., Robert Lee—Coke County plans grading and constructing drainage structures on 43 mi. San Angelo-Bronte road, State Highway No. 4, through County; \$100,000; E. J. Stockton, County Judge; J. E. Beavers, County Engr.

Tex., Rocksprings—Edwards County plans 22.15 mi. gravel road on State Highway No. 41, from point 4.5 mi. east of Rocksprings to Real County line; \$200,720; A. P. Allison, County Judge, Rocksprings; W. E. Simpson Co., County Engrs., 414 National Bank of Commerce Bldg., San Antonio, Tex.

Tex., San Angelo—Tom Green County. For full details see Mch. Wanted—Road Construction.

Tex., San Antonio—City. For full details see Mch. Wanted—Paving.

Tex., Sherman—City Comsn., let contract to McGuire and Cavender, Kansas City, Mo., at \$156,000, for 46,000 sq. yds. street paving; reinforced concrete. Lately noted.)

Va., Fairfax—State Highway Dept., Richmond, Va., will build 8 mi. Lee Highway from Broad and Washington Sts., Falls Church to Fairfax Courthouse, Fairfax County; Falls Church and Providence Districts, will vote in Nov. on \$275,000 bonds.

Va., Fort Myers Heights—Arlington County contemplates laying concrete sidewalk from Clarendon to Rosslyn. Address County Commrs.

Va., Fort Myer Heights—State Highway Dept., Richmond, Va., plans building 18-ft. concrete road from Halls Hill to East Falls Church, Arlington County.

Va., Princess Anne—Princess County, Bd. of Suprvs. For full details see Mch. Wanted—Road Construction.

West Virginia—State Road Comsn., Charleston, W. Va., will build 2 roads. For full details see Mch. Wanted—Road Construction.

W. Va., Berkeley Springs—State Road Comsn., Charleston, W. Va., plans 2½ mi. shale surfacing on Northwestern turnpike; Morgan County Project No. 3010-B; bids until Oct. 20.

W. Va., Buckhannon—Upshur County will improve roads; vote in Nov. on bonds as follows: Meade Dist. \$81,000; Banks Dist. \$17,000; Union Dist. \$120,000; Warren Dist. \$95,000; State Road Comsn., to give 50% aid. Address County Commrs.

W. Va., Buckhannon—Upshur County Commrs., Ernest Phillips, Clk., will improve roads; vote Nov. 7 on bonds as follows:

Meade Dist., on \$80,000, to improve French Creek and Little Kanawha pike; state road. Banks Dist., on \$109,000, to improve French Creek and Little Kanawha pike. Union Dist., on \$65,000, for Parkersburg and Staunton pike.

Warren Dist., on \$125,000 to improve Clarksburg pike; state road.

W. Va., Charleston—City, Ernest Bruce, Engr., let contracts to Board & Haley Co., and Abbott Bros., both Charleston, at \$112,020.95, for 19,756 sq. yds. street paving; asphalt, concrete base.

W. Va., Huntington—City Commrs. For full details see Mch. Wanted—Paving.

W. Va., Morgantown—Monongalia County Commrs. Court, has tentative plans for building concrete bridge over Deckers Creek, connecting Morgantown proper with southern section of city.

Sewer Construction.

Ala., Huntsville—City contemplates extending sewer system. Address The Mayor.

Ala., Tuscaloosa—Board of Commrs. let contract at \$6829 for construction of concrete sewers on various streets. (Lately noted.)

Ark., Piggot—City will expend \$40,000 for construction of sewer system. Address The Mayor.

Fla., Miami—For full details see Mch. Wanted—Sewage Disposal.

Ky., Frankfort—City contemplates constructing 1176 ft. of sewer. Address The Mayor.

Md., Aberdeen—For full details see Mch. Wanted—Sewer Construction.

Md., Baltimore—City, Wm. F. Broening, Prest., Board of Awards, opened bids for construction of drains and appurtenances in Gwynn's Falls Park north of Franklin Rd., Domonie Catalano, 34 Knickerbocker Bldg., lowest bidder at \$27,849; Milton J. Bark, Div. Engr., 311 Courtland St. (Lately noted.)

Mo., Cape Girardeau—City, C. E. Stiver, Mgr., will construct sewer system; 16 mi. of sewers from 8-in. to 102-in. in diam.; cost \$352,000; C. E. Smith & Co., Engr. in Charge; J. J. Dunnegan, Contr., Shenandoah, Ia.

Mo., Kirksville—City opens bids Oct. 16 for construction of sanitary sewer in Dist. No. 118. Address The Mayor. (Lately noted.)

Mo., St. Louis—City has under consideration plans for expending \$11,000,000 for conversion of River des Peres into closed sewer and also for expending \$8,000,000 for following work; extension of Baden sewer, cost \$450,000; extension of Wherry avenue outlet sewer, cost \$160,000; Mill Creek relief sewer, cost \$2,750,000; Rock Branch, Western

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extension, cost \$550,000; southern Arsenal relief sewer, cost \$1,100,000; Ferry St. relief sewer, cost \$100,000; reconstruction of all outlets to Mississippi River, cost \$300,000 and additional street inlets cost \$150,000. W. W. Horner, Ch. Engr. of Sewers and Paving.

N. C., Davidson—For full details see Water Works.

N. C., High Point—City opened bids for sewer construction; McArthur & Bennett, Rocky Mount, Va., were low bidders at \$32,527.10 for laying approx. 35,000 lin. ft. sewerage pipe and 20,000 ft. of water main; will call for bids for building sewerage pump station in First Ward. (Lately noted.)

N. C., Thomasville—For full details see Mch. Wanted—Paving and Sewer Construction.

Okl., Tulsa—For full details see Mch. Wanted—Sewer Tunnel.

S. C., Columbia—City will extend sewer system to Maxey Gregg Park; Geo. Nafey, in charge of construction.

Tenn., Chattanooga—For full details see Land Development.

Tex., Beaumont—City has \$200,000 available for improvements and extensions to sewer system. Address The Mayor.

W. Va., Bluefield—City considering construction of sewer system, Alston O. Rose, of Morris Knowles, Inc., Engrs., Pittsburgh, Pa.

W. Va., Weston—Chamber of Commerce interested in establishing sewer system.

Telephone Systems.

Mo., Kennett — Kennett-Caruthersville branch of Southern Bell Telephone Co., S. F. Blakemore, Mgr.; reported to install common battery system.

W. Va., Iager—Tri-State Telephone & Utility Co., capital \$50,000, inceptd. by Walter W. Miller, Iager; John D. Rout, Versailles, Ky., Ralph F. Miller, Detroit, Mich.

Textile Mills.

Mo., Kansas City—Chase Bag Co., Second and Delaware Sts., will construct 4-story plant.

S. C., Greenville—Judson Mills, B. E. Geer, Prest.-Treas., let contract to Gallivan Building Co. to construct addition to weave room and picker building; brick construction; steel frame, weave room extension will be 1 story and basement; 103x320 ft.; install 600 looms; saw tooth steel roof with 12 skylights running entire length of building; in the basement of building will be 500,000 lbs. of steel for supporting girders, pillars, etc.; picker building will be 2 story with basement; 50x60 ft.; basement of each building to have 13 ft. ceiling; total cost \$700,000; J. E. Sirrine & Co., Engr., Greenville. (Lately noted.)

S. C., Spartanburg—Textile Products Co., capital \$10,000, inceptd. with L. W. Porter, Prest.; L. W. Porter, Jr., Secy.

Water Works.

Ark., Piggott—City will expend \$60,000 for construction of water works system. Address The Mayor.

Fla., Anburndale—City let contract to J. B. McCrary Engineering Corp., Atlanta, Ga., for construction of water works system; work includes erecting 50,000 gal. steel tank on 75-ft. tower and laying approx. 8500 ft. of 6-in. and 8-in. mains, together with hydrants, etc.

Ky., Newport—Board of City Commrs., opens bids Nov. 14 for steam and electric

pumping mch. of 6,000,000 gals. capacity for installation at water works; Geo. Hornung, Wool-Sack Bldg., Consult. Engr.

La., Alexandria—City Commrs. let contract at \$35,000 to A. M. Lockett Co., New Orleans, for steel pipe; to Standard Sanitary Mfg. Co., New Orleans, for valves, jute and lead wool; to U. S. Cast Iron Pipe & Foundry Co., Burlington, N. J. for cast iron pipe; will issue new bids for laying mains; cost together with gas distribution plant, \$360,000. (Lately noted.)

Mo., Kansas City—City Water Commrs., plans replacement of rip-rapping on Missouri river to protect Quindaro water plant.

Mo., Kansas City—Fuller & McClintock, Consult. Engrs. outlined improvements planned to water works system within next 6 years, as follows:

Additional high lift pumping capacity, requiring construction of East Bottoms pumping station and equalizing reservoir, pressure tunnels between Turkey Creek and East Bottoms stations and at least one discharge main from East Bottom station; right of way for main tunnel from Platte Clay county site to city, etc.

Miss., Utica—For full details see Mch. Wanted—Water Works and Electric Light System.

N. C., Davidson—City will construct water works, sewer system and electric light plant, voted \$30,000 sewer bonds, \$60,000 light and water bonds. Address The Mayor. (Lately noted.)

N. C., Greensboro—City let contract at \$107,015.85 to Pittsburgh-Des Moines Steel Co., southern office, Richmond, Va., for constructing filtration plant. (Lately noted.)

N. C., High Point—For full details See Water Works.

Okl., Morris—John Lenox and C. E. Shambelin, Comm., interested in establishing water works plant.

Okl., Beggs—City let contract for construction of water works system. Address The Mayor.

S. C., Lamar—City, E. H. Pate, Secy., contemplates expending \$35,000 for construction of water works.

S. C., Ridgeway—City has engaged Ryan Engineering Co., Columbia, S. C., to prepare plans for water and light plant; will vote on bonds Oct. 24. Address The Mayor.

Tenn., Chattanooga—For full details see Land Developments.

Tenn., Memphis—City let contract at \$527,000 to D. D. Thomas & Son, for constructing reservoir and sub-structure of water plant; will open bids in Nov. for construction of superstructure; Fuller & McClintock, 431 Produce Exchange Bldg., Kansas City, Mo. Engrs. (Lately noted.)

Tenn., Rogersville—City contemplates improvements to water supply. Address The Mayor.

Tex., Beaumont—City has \$350,000 available for improvements and extensions to waterworks. Address The Mayor.

Tex., Greenville—City contemplates enlarging water supply, will vote on \$100,000 bonds; A. D. Duck, City Engr.

Tex., Panhandle—City has \$54,000 available for improvements to water works. Address The Mayor.

Tex., Santa Anna—City has \$25,000 available for water works improvements. Address The Mayor.

Tex., Teague—City will improve water works system; J. B. Hawley, Dallas, Consult. Engr.

W. Va., Bluefield—Bluefield Water Works

Improvement Co., having plans prepared for mechanical water filters, 2,000,000 gal. capacity; Ford, Burdick & Howson, Engrs., 8 S. Dearborn St., Chicago.

Woodworking Plant.

Ark., Black Rock—Wagon Stock—Coffey Bros. plans building 50x100-ft. addition to plant; increasing output.

Md., Baltimore—Hatfield Resilient Wheel Co., S. C. Hatfield, Prest., Munsey Bldg., reported to erect 50x100-ft., 3 story concrete building; daily capacity 100 wheels; cost \$40,000.

S. C., Westminster—J. S. Price, contemplates establishing hardwood blocks plant.

Tenn., Jackson—Rooks Box & Barrel Factory, capital \$200,000, inceptd. with L. E. Rooks, Prest.; H. C. Pearson, Secy.; J. B. Poltz, Plant Supt.

Tenn., Morristown—Tables—Taylor Mfg. Co., organized by W. H. Taylor, will erect concrete building, install mch. for mfr. of tables. (See Mch. Wanted—Woodworking Machinery.)

FIRE DAMAGE

Ark., Arkadelphia—Farmers' Union Warehouse Co.'s building; loss \$100,000.

Ark., Camden—Ouachita Hotel, owned by Mrs. Robt. Terrell and J. H. Goodgame; loss \$60,000; Merchants & Planters Bank; \$35,000; Patrick & Smead Drug Store; \$17,000.

Ark., DeQueen—Oak Grove Church near DeQueen. Address The Pastor.

Ark., Dermott—Armstrong's garage and storage building, also dwelling.

Ark., Fayetteville—University of Arkansas cattle barns.

Ark., Hindsville—Sam McDonald's apple evaporator plant; loss several thousand dollars.

Ky., Lawrenceburg—Residence of A. B. McAfee, Prest., Lawrenceburg Fair Assn., near Lawrenceburg; \$10,000 loss.

Ky., Lexington—Lexington Battery Co.'s building; Shively Garage; Leet Furniture Co.'s building; H. A. White's building.

Ky., Paris—D. B. Farris' store, garage and 2 residences; loss \$12,000.

Ky., Paris—W. M. Jones' barn.

La., Lena—Residences of Mrs. E. D. So-Relle and Mrs. Thos. Cleveland; loss \$15,000.

La., New Orleans—Atlantic Paint Co.'s plant, 2815 Perdido St; loss \$40,000.

La., New Orleans—Simon Pfeiffer & Co.'s buildings; loss \$150,000.

La., Shreveport—Caddo Cotton Oil Co.'s plant; loss \$100,000.

Md., Baltimore—White Co.'s building, 206 Water St., owned by Linthicum Realty Co., 20 E. Lexington St.; loss \$10,000.

Md., Baltimore—Crown Oil & Wax Co.'s plant at Pratt and Eighth Sts., Wm. G. Crowther, Prest.; loss \$30,000.

Mo., Carl Junction—High School; loss \$25,000. Address School Board.

Mo., Carthage—Cowgill & Hill Milling Co.'s elevator; loss \$150,000.

Mo., Craig—Farmers' elevator, R. E. Sellers, Mgr.

Mo., Kansas City—Alexandria Laboratories, Coca Cola Bldg., Elliott R. Alexander, Prest.; loss \$20,000.

Mo., Mineral Spring—Mineral Spring Hunt-

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ing & Fishing Club's building nr. Osage Bend; A. J. Bauer, Jefferson City.

Mo., Salisbury—Farmers' Grain Elevator Co.'s building; loss \$25,000.

Mo., Sedalia—F. W. Wollworth Five and Ten Cent Store.

N. C., Asheville—Jno. Kimberly's building on Broadway.

N. C., Asheville—Building occupied by People's Coal & Coke Co.; loss \$23,000.

N. C., Red Springs—C. C. Carter's gin.

Okla., McLoud—McLoud Cotton Gin.

S. C., Charleston—Jerome Hat Co.'s building, 35 Hayne St.

Tenn., Chattanooga—Chattanooga Southern League Baseball Team's grandstand; Strang Nicklin, Mgr.

Tenn., Dyerburg—Churchill Compress Co.'s cotton shed.

Tex., Athens—Trinity Compress Co.'s warehouse, loss \$25,000; Citizens Ice Co.'s plant, loss \$60,000.

Tex., Clarksville—Steger-Turner Lumber Co.'s planing mill and lumber kiln; loss \$30,000.

Tex., Corsicana—Southland Cotton Oil Co.'s seedhouse; loss \$80,000.

Tex., Edgewood—Mutual Gin Co.'s plant.

Tex., Iola—Farmers' Union Warehouse Co.'s building.

Tex., Stephenville—G. E. Ray Cafe; Mecca Cafe; Borders Kieth's garage.

Tex., Sulphur Springs—Garrison Hotel; loss \$40,000. Address The Manager.

Tex., Sweetwater—Nolan Hotel, owned by Gurial Estate; loss \$10,000; B. B. Thomas, Lessee.

Tex., Temple—Frank Carter's dwelling; loss \$10,000.

Va., Lynchburg—Schewel Furniture Co.'s warehouse, Commerce St.; loss \$20,000.

Va., Portsmouth—James Owens' building, 708 Chestnut St.

Va., Richmond—Fiber Board Container Co.'s plant; loss \$100,000.

Va., Richmond—Fibre Board Container Co.'s building at 3210 Williamsburg Ave.; loss \$100,000.

W. Va., Monongah, P. O. Fairmont—Consolidation Coal Co.'s conveyor house and slack bins at Mine No. 43.

Mo., St. Louis—J. F. Cairn, will erect 4-story building, Connecticut Ave.

Mo., St. Louis—May Building & Investment Co., Harry A. Barnett, Pres., will erect \$365,000 apartment group, Forest Park Blvd. and Taylor Ave.; 18 buildings; 4 suites of 3, 4 and 5 rooms each; financed and managed by Anderson-Stocke-Buermann Real Estate Co.

Tex., Houston—H. A. Kipp, Engr., is interested in erection of \$450,000 building, W. Alabama Ave. near Bute St., South End; 30 apartments; fireproof; brick and stone trim; 6 stories; marble entrance halls; tile floors and wainscoting in baths; built-in tubs; electric refrigerators; elevators; garages on ground floor; Briscoe & Dixon, Archts.; B. Ransom in charge of construction.

Tex., Yoakum—C. C. Tribble will erect apartment house over garage; about 22 rooms; \$10,000.

Association and Fraternal.

Ky., Louisville—Louisville Lodge No. 8, B. P. O. E., Kendrick R. Lewis, Chrmn. Bldg. Comm., receives bids until Nov. 1 at office of Joseph & Joseph, Archts., Francis Bldg., to erect 8-story building. (Previously noted.)

Ky., Montago—Meams-Haskins Coal Co. will erect Y. M. C. A. at Carr's Fork. (See Dwellings.)

Ky., Montago—Wisconsin Coal Co. will erect Y. M. C. A. (See Dwellings.)

Miss., Vicksburg—Allen Post No. 3, American Legion, will erect building.

N. C. Wilmington—Benevolent Protective Order of Elks, J. O. Reilly, Secy., 118 Princess St., receives bids until Nov. 7 to improve first floor and basement of Elks Temple, 213-15 N. Front St.

Okla., Okmulgee—Elks Lodge No. 1136 will erect \$200,000 building; 4 stories and basement; 50x130 ft.; brick, concrete and stone; Smith & Senter, Archts.

Tex., Breckenridge—Knights of Pythias plan \$150,000 lodge and office building; 5 stories.

Tex., Colorado—Cran C. Hooker Post, American Legion, plans \$12,700 hut.

Tex., Orange—Madison Lodge, A. F. & A. M., plans temple.

Bank and Office.

Fla., Miami—Miami Bank & Trust Co., C. D. Leffer, Pres., is considering erecting 8 to 10 story building, First St. and N. E. First Ave.

Va., Ocean View—Norfolk Trust Co., Norfolk; \$12,500 office building, Lynnhaven Ave. and Avenue A; 2 stories; brick; R. E. Relford, Contr.

Churches.

Ala., Montgomery—Highland Avenue Baptist Church, Rev. W. R. Seymore, Pastor, will erect addition; construction begun.

Ala., Woodlawn (Sta. Birmingham)—Grace Episcopal Church plans buildings; \$25,000 unit to be erected first; Rev. Carl Henckell, Rector.

Ga., Decatur—Oakhurst Presbyterian Church, Oakhurst near Decatur, Dr. Paul S. Rhodes, Supply Pastor, College Park, will erect \$10,000 building; Bealer & Biggers, Archts., Atlanta Trust Bldg., Atlanta.

BUILDING NEWS

BUILDINGS PROPOSED

Apartment Houses.

Ala., Birmingham—H. N. Maloney Co., 1621 S. 11th Ave., will erect \$650,000 building; 130x196 ft.; 7 stories; fireproof; 20-yr. roof; concrete, oak and tile floors; hollow fireproof and interior tile; ornamental terra cotta; metal doors; wire glass; steel sash and trim; mail chutes; vault lights; ventilators; refrigeration; J. E. Salie, Archt., Suite 620, Empire Bldg.

D. C., Washington—Board of Temperance, Prohibition and Public Morals of M. E. Church, receives bids until Oct. 19 at office Ballinger Co., Archts.-Engrs., 12th and Chestnut Sts., Philadelphia, to erect building; 152 ft. on First St., N. E.; 129 ft. on Maryland Ave., and 39 ft. deep; garage in rear; Italian renaissance; fireproof; steel frame; granite to first story level, limestone above; entrances on each front to central lobby; first floor for conference room, tea room, book room and kitchen; second, offices; remaining floors for apartments, including 15 house-keeping and 2 bachelor apartments.

D. C., Washington—Kennedy Bros., Inc., 2400 16th St., N. W., will erect apartment house; 8000 sq. ft.; 5 stories and basement; concrete slab and hardwood floors; concrete and slag roof; coherete foundation; hollow fireproof and interior tile; metal doors; mail chutes; ventilators; steel sash and trim; steam heat; elevator; Sonneman & Justement, Archts., Davidson Bldg.; H. F. Lucke, Engr., 816 14th St., N. W.; owner builds.

D. C., Washington—Harry Wardman, 1430 K St., N. W., will erect 11-story building, 13th and I Sts., N. W.; reinforced concrete; stone and rough-faced brick; 97x138 ft.; 13,700 sq. ft.; 2 elevators; 230 apartments of 1 and 2 rooms, kitchenette and bath; stores on ground floor; cost including ground, \$1,100,000; Wardman & Waggaman, Archts. (Lately noted.)

Fla., Eustis—Eustis Home Building Co., Ben Miller and others, will erect bungalow court containing 12 apartments; also number of bungalows; Allan J. MacDonough, Archt.

Fla., Sarasota—Ralph C. Caples and others, plan to erect \$300,000 building; 100 apartments and 16 stores.

Fla., West Palm Beach—N. W. Wanger will erect \$11,000 building, Hibiscus Ave., near Rosemary St., Model Land Co. addition; stone block; owner builds.

Ga., Macon—Happ & Shelverton, Archts., Fourth Nat. Bank Bldg., plan building in Vineville section.

Md., Baltimore—Royal Realty Co., Israel Silberstein, Pres., 607 Equitable Bldg., will erect \$50,000 building, Brooks La. near Linden Ave.; 3 stories; brick; 54x88 ft.; 9 apartments; E. H. Browne, Archt., 607 Equitable Bldg.; owner builds.

Md., Baltimore—Sam'l Smullian, 1725 N. Carey St., is preparing plans for \$50,000 building in Lake Drive section; 3 stories; brick; 38x50 ft.; 6 apartments.

Md., Baltimore—Oakford Apartment Co., will erect 3-story building, Oakford Rd. near Leona Ave.; brick; 72 apartments; Otto G. Simonson, Inc., Archt., Md. Casualty Tower.

Md., Baltimore—Commonwealth Realty Co. will erect \$35,000 building, Garrison and Forest Park Aves.; 2 stories; 126x70 ft.; brick; steam heat; slag roof; tile baths, etc.; 7 suites of 5 rooms, kitchen and bath; Stanislaus Russell, Archt., 11 E. Lexington St., bids until Oct. 23.

Md., Baltimore—M. S. Meyerhoff, Pres. Park Hgts. Development Co., will erect 3 buildings on Reisterstown Rd. near Callow Ave.; \$100,000; 4 stories; 39x56 ft.; 6 apartments each; Carl H. J. Zink, Archt., Holly Ave. and Hawthorne Aves., Hamilton; also erect 20 dwellings at Park Hgts. Manor; 1½ and 2 stories; frame; \$80,000.

Md., Frederick—Walter Bros., E. Patrick St., will erect \$20,000 store and apartment building; 3 stories; 33x100 ft.; 2 suites; brick; B. Evard Kepner, Archt., 34 N. Market St.

Mo., Kansas City—Phillip Minkin purchased site on Brush Creek Blvd. and Grand Ave. and will erect 40-apartment building.

In writing to parties mentioned in this department, it will be of ad vantage to all concerned if the Manufacturers Record is mentioned.

Ky., Montaga—Meams-Haskins Coal Co. will erect church at Carr's Fork. (See Dwellings.)

Miss., Hattiesburg—First Baptist Church, Rev. Dr. Yarborough, Pastor, will erect building or remodel present structure.

Mo., Columbia—Missouri Congregational Conference will erect church.

N. C., High Point—Methodist Protestant Church, C. C. Robbins, Chrmn., Bldg. Comm., will erect building, Main and Richardson Sts.; 150x70 ft.; seating capacity 1200; Herbert B. Hunter, Archt. (Previously noted.)

Okla., Durant—First Methodist Church, Rev. J. G. Miller, Pastor, will erect \$50,000 building.

Tenn., Knoxville—Oakwood Methodist Church, Rev. W. E. A. Robeson, Pastor, will erect \$40,000 building, Burwell Ave.; brick; A. B. Baumann & A. B. Baumann, Jr., Archts. (Lately noted.)

Tex., Beaumont—First Baptist Church will erect \$150,000 building; Barnes & Barglebaugh, Archts., Houston; bids opened Nov. 15.

Tex., Breckenridge—First Christian Church plans \$60,000 building. Address Chrmn. Bldg. Comm.

Tex., Elgin—Baptist Church will erect \$20,000 brick building. Address The Pastor.

Tex., Port Arthur—Central Baptist Church will erect \$20,000 building; brick and concrete; Will A. Noonan, Archt., San Antonio.

Tex., Victoria—B'nai Israel Congregation will erect synagogue on N. Main St. Address The Rabbi, care Masonic Temple.

Va., Newport News—Adath Jeshuran Congregation plans \$100,000 synagogue. Address The Rabbi.

Va., Petersburg—First Baptist Church, Rev. W. Marshall Craig, Pastor, plans \$250,000 building.

City and County.

Fla., Clearwater—Grand stand, etc.—City plans vote on \$25,000 bonds to erect baseball grand stand, etc. Address The Mayor.

Fla., Fort Pierce—Tool House, etc.—Saint Lucie County will erect 2-story building; 60x120 ft.; tool house and garage on first floor; convict laborers' quarters above; plans by E. H. Collins, County Engr.

La., New Orleans—Auditorium—City votes Nov. 7 on \$2,000,000 bonds for municipal auditorium. Address The Mayor.

Md., Baltimore—Police Station—Board of Awards, Mayor Wm. F. Broening, Presr., receives duplicate bids until Oct. 25 at office Richard Gwinn, City Register, City Hall, to erect brick shed and wall at Northern police station; drawings and specifications at office J. F. Crowther, Inspector of Bldgs., City Hall.

Tex., Brenham—Auditorium—Civic Clubs plan municipal auditorium. Address Mayor A. A. Hacker.

W. Va., Charleston—Library—City, Geo. S. Laidley, Chrmn., Library Executive Comm., plans \$300,000 library.

W. Va., Wheeling—Hose House—City, C. M. Dowler, Mgr., will erect hose house, 1609-11 Warwood Ave.; M. F. Glessey, Archt., McLain Bldg.; bids opened Oct. 16; \$15,000; 35x80 ft.; wood floors; brick foundation; composition roof; 2 stories. (Lately noted.)

Courthouses.

Fla., Tavares—Lake County voted \$250,000 bonds for courthouse; brick; succeeded; Allan McDonough, Archt., Eustis. (Lately noted.)

Tex., Olton—Lamb County will erect \$40,000 courthouse; Smith & Townes, Archts.

Dwellings.

Ala., Birmingham—Chas. H. Lehman will erect \$10,000 dwelling; brick; J. E. Sallie, Archt., Empire Bldg.

Ark., Jonesboro—Roy Sloan will remodel dwelling; English type; 2 stories; stucco and stonekote; built-in ice box, etc.; hot water heat; \$10,000; Estes W. Mann, Archt., Memphis, Tenn.

D. C., Washington—Harris Shapero will erect \$10,000 dwelling, 1480 Girard St. N. W.; 2 stories; brick; owner builds.

Fla., Daytona—Harry Pepper will erect 2 bungalows, S. Ridgewood and Fremont Aves.; frame and stucco; tile baths; built-in tubs; 5 rooms; about \$4500 each.

Fla., Lake City—C. C. Coffin will erect dwelling; T. M. Bryan, Archt., Ray Littlefield, in charge.

Ga., Atlanta—B. B. & C. W. Bush have permit to erect \$10,000 dwelling, 36 St. Charles Pl.; 2 stories; frame.

Ga., Atlanta—P. A. Peterson will erect \$18,000 duplex dwelling; 2 stories; stucco.

Ga., Macon—Guy Armstrong will erect dwelling, Clayton and Callaway Sts.; Happ & Shelverton, Archts., Fourth Nat. Bank Bldg.

Ga., Macon—Robert Barnes will erect \$15,000 dwelling, Cherokee Ave., Cherokee Heights; 2 stories; Colonial type; brick veneer; Happ & Shelverton, Archts., Fourth Nat. Bank Bldg.

Ga., Macon—C. H. Jones will erect dwelling in Ingleside; Happ & Shelverton, Archts., Fourth Nat. Bank Bldg.

Ga., Macon—W. M. Means will erect dwelling on Forsyth Rd.; Happ & Shelverton, Archts., Fourth Nat. Bank Bldg.

Ky., Montaga—Meams-Haskins Coal Co. will erect 50 miners' dwellings, church, school, Y. M. C. A., etc., at Carr's Fork; contract let Nov. 1.

Ky., Montaga—Wisconsin Coal Co. will erect 10 miners' dwellings and Y. M. C. A. building.

Ky., Sergeant—Imperial Elkhorn Coal Co., Holland Bldg., Detroit, Mich., will erect 20 miners' Houses; contract let Nov. 1.

Ky., Whiteburg—George Hogg and others will erect 6 cottages.

Md., Baltimore—M. S. Meyerhoff, Presr., Park Heights Development Co., will erect 20 dwellings at Park Heights Manor. (See Apartment Houses.)

Md., Baltimore—W. H. Thomas will erect dwelling, Eden Terrace; \$18,000; 2½ stories; 30x42 ft.; Fredk. Thomas, Archt., 135 Kenwood Ave.; call for bids Nov. 1.

Md., Baltimore—Cityco Realty Co., 2 E. Lexington St., will erect 4 frame dwellings, Homeland Ave., nr. Doverdale Rd.; 20x30 ft.; 2 stories; also 5 individual garages, Oak St.; brick; total \$19,000; F. E. Beall, Archt., 306 St. Paul St.

Md., Baltimore—Westphal & Schoenhals, Park Bank Bldg., will erect 39 dwellings, 3700-36 and 3800-38 Cottage Ave.; about \$110,000; 2 stories; brick; 15.9x56 ft.; slag roofs; hot water heat; Jas. F. Hirt, Archt., 829 N. Luzerne St.; owner builds.

Md., Baltimore—Louis Farber, 3543 Park Heights Ave., will erect 46 two-story dwellings, Violet Ave., nr. Reisterstown Rd.; \$100,000; 20x35 ft.; Stanislaus Russell, Archt., 11 E. Lexington St.; owner builds.

Md., Baltimore—Jacob Mizen, 4013 Park Hgts. Ave., will erect 13 dwellings, Astor Pl. and Old Pimlico Rd.; 2 stories; brick; 19x33 ft.; stone foundations; \$39,000; hard-

wood floors; hollow fireproof tile; Fredk. E. Beall, Archt., 306 St. Paul St.; owner builds. (Lately noted in part).

Md., Baltimore—Columbia Building Co., 3311 McElderry St., will erect 15 dwellings, 501-29 N. Clinton St.; one 15.6x52 ft.; 14, 15.6x28 ft.; \$30,000; 2 stories; brick; plans and construction, by owner.

Md., Baltimore—Benj. R. Sales will erect dwelling, Murdock Rd. near York Rd., Anneslie; 2 stories; shingle.

Md., Baltimore—Geo. W. Schoenhals, 101 S. Linwood Ave., purchased site on Warwick Ave. between Presbury and Westwood Sts., and will erect 35 to 40 dwellings; 2 stories; brick; 6 rooms and bath; total \$160,000.

Md., Baltimore—Bowling Construction Co., Kent and Norfolk Aves., will erect 13 dwellings; 2 stories; brick; \$40,000.

Md., Baltimore—James Coburn plans \$12,000 dwelling and garage, 3904 Garrison Blvd. 2½ stories; hollow tile.

Md., Baltimore—Sam'l. L. Willard, Coca Cola Bldg., will erect \$70,000 dwelling, Guilford; 40x90 ft., with wing, 22x45 ft.; 2½ stories; brick; vapor heat; slate roof; 22 rooms and 6 baths; Otto G. Simonson, Inc., Archt., Md. Casualty Tower; plans ready in about one week.

Md., Catonsville—Schatz Bros. will erect 4 dwellings, Osborne Ave.; 2½ stories; \$25,000; frame.

Md., Chevy Chase—L. P. Johnston, 311 Davidson Bldg., Washington, D. C., will erect \$20,000 residence; 40x32 ft.; 2 stories and basement; plans and construction by owner.

Miss., Jackson—A. F. Wortman, 1439 W. Capitol St., will erect \$18,000 dwelling, Capitol and Magnolia Sts.; brick; 70x56 ft.; 1 story; hardwood floors; hollow fireproof tile; face brick; tile roof; concrete foundation; hot water heat. (Lately noted.)

Mo., Kansas City—D. M. Proctor will erect dwellings, 7335 Terrace and 7434-35 Wyoming Sts.; \$21,000.

Mo., Kansas City—A. E. Sharp will erect five \$2000 dwellings, 5330-32-34 Virginia and 912-16 Lydia Aves.

Mo., Poplar Bluff—Linton Co. will erect three \$6000 bungalows.

Mo., St. Louis—Nat S. Brown, Gen. Counsel, Wabash Ry., will erect dwelling in Moorlands sub-division.

Mo., St. Louis—J. Harry Rohme will erect \$30,000 dwelling, Klemm Ave. and Flora Place.

Mo., St. Louis—North Webster Improvement Assn. purchased 38 lots and will erect number of dwellings.

Mo., St. Louis—Harry Israel will erect dwelling, Clayton Rd. and Boland Dr., Moorlands subdivision; \$30,000; French chateau type; Study & Farrar, Archts.

Mo., St. Louis—August Schoellhorn, Presr., Schoellhorn-Albrecht Machine Co., will erect dwelling in Moorlands subdivision.

N. C., Asheville—John K. Jenkins, 241 Broadway, will erect \$11,500 dwelling, Forest Hill; frame and brick veneer; concrete and hardwood floors; stone foundation; contracts let for hot water heat and plumbing; owner builds. (Lately noted.)

Okla., Henryetta—Lang & Co., Contrs., have plans for 7 cottages.

S. C., Gray Court—Jasper E. Johnson will erect dwelling on Willis property.

Tex., Corsicana—Chas. G. Jester will erect Colonial dwelling, W. 25th St. and 1st Ave.; 2 stories; Ye Plannery, Inc., Archts., Dallas.

Tex., Dallas—J. M. Waits will erect 20

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frame cottages, 4000 and 4700 block Gurley Ave., East Side addition; \$2300 each.

Tex., Houston—V. H. Willford will erect 3 five-room dwellings and garages, Willard St.; \$3850 each.

Tex., San Antonio—H. C. Thorman will erect 6 dwellings on Peck Ave. and 4 on Drexel Ave.; \$18,800.

Tex., San Antonio—F. H. Yeagley will erect 7 dwellings, Waco St. near Calaveras St.; about \$10,000; 4 rooms.

Tex., San Antonio—George E. Judson will erect dwelling; C. B. Schoeppl & Co., Archts.

Tex., San Antonio—Winchester Kelso, Jr., will erect dwelling; C. B. Schoeppl & Co., Archts.

Tex., San Antonio—E. N. Requa will erect dwelling; C. B. Schoeppl & Co., Archts.

Tex., San Antonio—A. S. Sapolo will erect dwelling; C. B. Schoeppl & Co., Archts.

Tex., San Antonio—Mrs. Lucille Thornton will erect 2-story dwelling; stucco; hardwood floors; hot air heat; Atlee B. & Robt. M. Ayres, Archts., Bedell Bldg.

Va., Norfolk—Dr. R. L. Payne will erect \$25,000 dwelling, Tanner's Creek; 2½ stories; 95x37 ft.; B. D. Spiegel, Archt., Va. Nat. Bank Bldg.

Va., Norfolk—S. E. Dupont will erect 11 dwellings, Ballentine Pl., Tanner's Creek; 1 story; frame and stucco; \$2800 each.

Va., Portsmouth—Indiana Home & Investment Co., Norfolk, will erect 14 dwellings; \$2000 each.

Va., Richmond—Muhleman & Kayhoe will erect frame and stucco dwellings at 3135 Edgewood Ave. and 3203 Hanes Ave.; \$5000 each.

Hospitals, Sanitariums, Etc.

La., New Orleans—Louisiana Retreat, Exposition Blvd. and Coliseum St., will erect 3-story brick addition to building; also 3-story brick building; 250x250 ft.; Paul Andry, Archt., 840 Graver St.

Md., Salisbury—Pine Bluff Sanatorium near Salisbury will erect \$25,000 addition; also expend \$75000 on repairs. Address Dr. A. B. Burris, Supt.

Mo., Chillicothe—Livingston County votes Nov. 7 on \$175,000 bonds to erect and maintain county hospital. Address County Comms.

N. C., Asheville—French Broad Hospital, Inc., plans 30-bed addition.

N. C., Thomasville—City plans hospital; 5-acre tract near railroad available. Address The Mayor.

Tex., Beaumont—Jefferson County, Rabbi Samuel Rosinger, Prest., Tubercular Assn., voted \$50,000 bonds to erect sanatorium.

Tex., Wichita Falls—Wichita County, J. P. Jones, County Judge, recently defeated bonds and will vote Nov. 10 on \$150,000 issue to erect branch hospitals at Burkburnett, Electra and Iowa Park. (Lately noted.)

W. Va., Bluefield—St. Luke's Hospital; building, Bland and South Sts.; 35x120 ft.; 5 stories; reinforced concrete floors; concrete foundation; Garry & Sheffield, Archts., Bluefield; C. W. Hancock & Sons, Lynchburg, Va., contrs. for excavation and foundation. (Lately noted.)

Hotels.

Ark., Little Rock—C. S. Walz, Jackson, Tenn., is promoting erection of 300-room hotel.

Fla., Apalachicola—Wm. Lee Popham will develop St. George Island; erect \$1,000,000 hotel; concrete reinforced with steel and exterior walls dashed with sea shells; construct artificial lakes and ponds.

Fla., St. Petersburg—L. H. Miller will erect \$10,000 addition to Miller Hotel on 3rd Ave.; 2 stories.

Ky., Mammoth Cave—Mammoth Cave Development Co., Geo. D. Harrison, Prest., New York, plans \$500,000 hotel over portion of Mammoth Cave; 400 rooms; elevator in 3 decks; one for each floor of hotel and other drop of 208 ft. into cave; plans by R. P. Valtier, Engr., for American Elevator & Machine Co., Louisville.

La., Monroe—Monroe Hotel, J. E. Doughtie, Mgr., will erect annex, reconstruct lobby, install elevator; \$70,000.

Mo., Springfield—Sansome Hotel plans \$45,000 addition; 2 stories.

S. C., Charleston—Edw. J. Murphy is interested in organization of company to erect tourist hotel, King St. at S. Battery; \$1,000,000; 7 stories; 175 rooms with bath; G. Lloyd Preacher & Co., Archts., Healey Bldg., Atlanta, Ga.

Tenn., Jackson—Jackson Hotel Co. plans \$400,000 hotel; 75x100 ft.; 9 or 10 stories; steel, hollow fireproof and interior tile; hardwood and concrete floors; rolling partitions; wire glass mail chutes; steel sash and trim; ventilators; Clinton & Russell, probable Archts., 32 Nassau St., New York. Address C. S. Walz, Jackson.

Va., Alexandria—Chamber of Commerce is interested in erection of hotel.

Va., Old Point—Frank W. Darling, H. H. Holt, M. C. Armstrong, Hampton, and Homer L. Ferguson, Newport News, are comm. promoting erection of building to replace Chamberlin Hotel; \$1,500,000; Harry Wardman, Wardman-Park Hotel, Washington, D. C., is interested. (Lately noted.)

Miscellaneous.

Ky., Louisville—Clubhouse—Turner Park Club, J. Geo. Miller, Chrmn., Bldg. Comm., will erect building on Upper River Rd.; \$20,000; 2 stories; reinforced concrete; Fred Erhart, Archt., Merton Bldg.

Md., Baltimore—Industrial Building—A. D. McComas, 1109 Lexington Bldg., is interested in erection of industrial building; daylight construction.

Mo., Kansas City—Home—Interdenominational Home for Girls, Fred Hoose, Chrmn., 414 New York Life Bldg.; \$150,000 building; brick, stone and reinforced concrete; 4 stories and basement; C. A. Smith, Archt., Finance Bldg.

S. C., Anderson—Barn—F. L. Rhody, box 33, will erect building to replace structure lately noted burned; \$10,000; 2 stories; 60x100 ft.; concrete.

Tenn., Chattanooga—Market—Arthur Lessly will remodel 4-story building, on Georgia Ave. for market and offices; \$50,000.

Tex., Abilene—Lumber Sheds, etc.—Higginbotham-Bartlett Co.; office and lumber shed, N. 4th and Pine Sts.; 20x140 ft.; 24 ft. high; brick; plate glass front; concrete foundation; also repair present sheds; roof, front, etc.

Railway Stations, Sheds, Etc.

S. C., Anderson—Piedmont & Northern Ry., E. Thomason, V.-P.-Gen. Mgr., Charlotte, N. C., receives bids until Nov. 2 to erect \$50,000 passenger station; brick and metal; plans and specifications at office J. E. Shirrine, Archt., Greenville, S. C. (Lately noted.)

Tex., Dallas—Texas Electric Ry., Burr Martin, Gen. Mgr., will not erect express warehouse as lately reported.

Schools.

Ala., Birmingham—City Board of Education receives bids until Oct. 21 at office Warren, Knight & Davis, Archts., 1607 Em-

pire Bldg., to erect Norwood and Norma Birmingham schools; 2 stories and basement; 40x200 ft.; brick, hollow tile and reinforced concrete; reinforced concrete floors; concrete foundation; built-up roof; interior tile; metal doors; vaults; ventilators; low pressure steam heat; clock and signal systems; E. B. Van Kueren, Engr., 1307 Jefferson Bank Bldg. (Lately noted.)

Ala., Mobile—School Commissioners will erect Arlington School; bids opened Oct. 18; plans and specifications at office A. H. Downey, Archt., 111 S. Franklin St.

Ark., Jonesboro—State Agricultural School, V. C. Kays, Prin., will erect \$10,000 gymnasium; 2 stories; 112x124 ft.; brick; concrete and hardwood floors; shingle, slate or tile roof. (Lately noted.)

Fla., Gulfport—Gulfport School Dist. will vote Nov. 21 on \$10,000 bonds to erect school in Oak Park Community; C. C. Carr, Chrmn., County School Board, Clearwater.

Ga., Atlanta—Board of Education, J. N. Landers, Pur. Agt., receives bids until Oct. 17 for general contract on Storrs-Houston School and mechanical work on Faith Street and Formwalt schools; also until Oct. 20 for mechanical contract work on Storrs-Houston School, including plumbing, heating and electrical work; plans and specifications by Arthur Neal Robinson for Storrs-Houston School; Wm. J. J. Chase for Faith Street School and DeFord Smith for Formwalt School; bid blanks from A. Ten Eyck Brown, Supervising Archt., Forsyth Bldg. (Lately noted.)

Ga., Butler—Butler Consolidated School Dist. Trustees, W. A. Payne, Chrmn., receive bids until Oct. 24 to erect building; 8 rooms and auditorium; plans and specifications at office T. F. Lockwood, Archt., Murrah Bldg., Columbus, Clerk of Public Schools, Butler, and at Builders Exchange, Atlanta. (Previously noted.)

Ga., Columbus—Muskogee County Board of Education, J. L. Bond, Supt., will erect \$40,000 annex for Wynnton Academy; wing on either side of 3 rooms each and rear extension of 4 rooms; stucco; accommodate 650; Hickman & Martin Co., Archt.

Ga., Decatur—Agnes Scott College, J. R. McCall, Vice-Prest., plans building; Cram & Ferguson, Archts., 15 Beacon St., Boston, Mass.

Ky., Fern Creek (R. D. from Buetchel)—County Board of Education, Nicholas Finzer, Chrmn., Louisville, will erect 4-room school.

Ky., Montago—Meams-Haskins Coal Co. will erect school at Carr's Fork. (See Dwellings.)

La., Natchitoches—State Normal College, V. L. Roy, Prest., receives bids until Nov. 9 to erect 2-story brick gymnasium; \$60,000; 80x100 ft.; brick and frame; wood floors; composition roof; concrete foundation; low pressure steam heat; Favrot & Livaudais, Archts., Hibernia Bank Bldg., New Orleans.

Md., Baltimore—Board of Awards, Mayor Wm. F. Broening, Prest., will erect \$425,000 school, 7th St. and Claremont Ave.; fireproof; brick; 3 stories and basement; 227x100 ft. and 54x120 ft.; wood, cork, terrazzo and cement floors; asphalt roof; concrete foundation; hollow fireproof and interior tile; metal doors; vaults; ventilators; ornamental terra cotta; steel sash and trim; wire glass; Herbert G. Jory, Archt., Munsey Bldg.; Jas. Posey, Engr., 11 E. Pleasant St.

Md., La Plata—County Board of Education will erect high school at Glasva.

Miss., Biloxi—Seashore Campground Board of Trustees will erect \$50,000 school and 50,000 dormitory; brick; Carl E. Matches, Landscape Archt. (Lately noted.)

Miss., Corinth—Alcorn County Agricultural

College will erect annex.

Miss., Smithville—School Dist. Trustees plan to erect high school; \$90,000 bonds available.

Miss., Vicksburg—City School Board will erect junior high school, McCabe and Kain Sts.; also repair other schools.

Mo., Cameron—Board of Education plans to erect grade school; 8 rooms and basement; also repair and install heating plant at Southside School; election Nov. 7 on \$60,000 bonds.

Mo., Carl Junction—School Board will erect high school noted burned at loss of \$25,000.

Mo., Kirksville—Board of Education will erect junior high school; Irwin Dunbar, Archt.

Mo., Lees Summit—Board of Education, O. C. Browning, Prest., will erect \$100,000 high school; 2 stories and basement; brick, stone and reinforced concrete; Wm. H. Saylor & Co., Archts., Mutual Bldg., Kansas City.

Mo., Marshall—Board of Education, A. B. Hoy, Secy., receives bids until Oct. 31 to erect high school; plans and specifications at office Owen, Payson & Carswell, Archts., Interstate Bldg., Kansas City.

Mo., Plainville—Board of Education, Marvin Harris, Secy., will erect \$40,000 high and grade school; 2 stories; 55x75 ft.; brick; M. J. Geise, Archt., 800½ Main St., Quincy, Ill.

Mo., Shelby—County School Board, B. E. Runyan, Clk., Brookfield, receives bids until Oct. 21 to erect 6-room school.

Mo., Springfield—Springfield Assembly of Church Council, J. W. Welch, Secy., will erect college buildings; \$25,000.

N. C., Gastonia—School Board, A. G. Myers, Chrmn., receives bids until Oct. 31 to erect West End Graded School; plans and specifications at office White, Streeter & Chamberlain, Archts., Gazette Bldg.; Builders Exchange, Columbia, S. C., Charlotte, N. C. and Greensboro, N. C.

Okla., Summit—Board of Education, A. Potter, Chrmn., receives bids until Oct. 23 to erect school; plans and specifications at office Chas. P. Neider, Archt., Oklahoma City.

S. C., Bamberg—Board of School Trustees, G. O. Simmons, Secy., receives bids until Nov. 9 to erect high school; drawings and specifications at office F. H. & J. H. Cunningham, Archt., Greenville.

S. C., Chester—Board of Education, M. E. Brockman, Supt., Box 378, is considering erection of high school and grammar and primary school; Alfred D. Gilchrist, Archt., Rock Hill; bond election about Dec. 1. (Lately noted.)

S. C., Gaffney—County Board of Education, W. C. McArthur, Supt., will erect building for Love Springs School Dist.

Tex., Bonham—King Dist. No. 5 will erect building; bonds voted. Address County Bd. of Education.

Tex., Galveston—University of Texas, Dr. Robt. E. Vinson, Prest., will erect 2 buildings at State Medical College; \$400,000; one structure, 3 stories and basement; laboratories, museum, library, histology and anatomical departments; fireproof; other, power plant to supply light, heat and power to Sealy Hospital, nurses' home, adjoining buildings and college proper; Herbert M. Greene Co., Archt., Dallas. (Lately noted.)

Tex., Taylor—City votes Nov. 6 on \$32,000 bonds to erect school auditorium. Address Board of Education.

Va., Clarendon (Branch of Washington, D. C.)—Arlington Magisterial Dist. voted \$854,000 school improvement bonds. Address Board of Education. (Lately noted at Va., Arlington.)

Va., Norfolk—Board of Education, 800

Bankers Trust Bldg., will erect colored school on Princess Ann Ave.; \$450,000; 3 stories; 420x120 ft.; reinforced concrete, hollow fireproof and interior tile; concrete foundation; hardwood and concrete floors; rolling partitions; steel sash and trim; wire glass; steam heat; 70 classrooms and auditorium; Benj. F. Mitchell, Archt. (Lately noted.)

Va., Williamsburg—College of William and Mary will erect \$150,000 dormitory; 40x250 ft.; 4 stories; brick and frame; concrete foundation; slate roof; vapor heat from central plant; swimming pool; Chas. M. Rouison, Archt., Times-Dispatch Bldg., Richmond.

W. Va., Bluefield—Beaver Pond School Dist., Bernard McLaugherty Prest., votes Sept. 30 on \$500,000 bonds to purchase sites, enlarge consolidated school near Littleburg, erect junior high school in central part of city, other schools in city and rural section.

W. Va., Triadelphia—Triadelphia School Dist. votes Nov. 7 on \$300,000 bonds to purchase site, erect, remodel and equip schools as follows: Woodsdale, \$50,000; Mt. DeChantel, \$40,000; Park View, \$35,000; Elm Grove, \$20,000; Triadelphia elementary schools, \$40,000; Triadelphia District High School, \$85,000; S. M. Baird, Prest., Board of Education. (Lately noted.)

Stores.

Ala., Birmingham—Neil & Bruce will erect \$10,000 store, 1201 26th St.; brick.

Ark., Morrilton—Plunket-Jarrell Grocery Co., E. E. Rankin, Mgr., will erect \$20,000 building on Railroad Ave.

Fla., Eustis—Bowman Bros., DeLand, will erect brick store.

Fla., St. Petersburg—Carpenter & Baynard will erect \$14,000 building on 9th St.

Ky., Ashland—Watson Hardware Co., W. B. Whitt, Gen. Mgr., will erect 3-story addition to store. (Kitchen-Whitt Co. incorrectly noted to erect addition.)

Ky., Comb—V. A. Maggard will erect \$10,000 store; contract let in 3 weeks.

Ky., Louisville—Branham & Rextroat will erect \$11,000 store, Richmond St. and Newburg Rd.

Ky., Viper—John Watts will erect store at Vico; contract let Nov. 1.

Md., Baltimore—Hubbard & Eagleston, 120 W. Baltimore St., purchased site in rear of hardware store and will expend \$10,000 for improvements.

Md., Baltimore—Jos. H. Gault, Prest., Gault Mfg. Co., Union, S. C., will convert building at Liberty St. and Park Ave. into stores and offices; Otto G. Simonson, Inc., Archt., Maryland Casualty Tower. (Lately noted.)

Mo., Kansas City—Whyte Bros., 1119 McGee St., will erect store; 1 story and basement; 66x100 ft.; brick and terra cotta; Hoyt, Price & Barnes, Archts., Reliance Bldg.

Mo., Kansas City—L. A. Stephenson, Mutual Bldg., will erect \$50,000 store and office building; 88x120 ft.; brick and stone; plans

by owner.

Mo., Kansas City—J. W. McCallum Constr. Co. will expend \$10,000 to remodel building, 1324-30 Baltimore Ave.

Mo., Kansas City—Barney Tanhoff will erect \$12,000 store, 4011-21 Troost Ave.; brick.

N. C., Asheville—J. M. Westall will erect \$15,000 building, Walnut and North Lexington Sts.; owner builds.

Tenn., Knoxville—McGinley Produce Co. will erect building on Grand Ave.

Tex., Dallas—S. B. Perkins will erect store on St. Paul St.

Tex., Texarkana—Ben Collins will erect store, E. Broad and Elm Sts.; 2 stories; brick.

Va., Richmond—Rountree Corp., 11 W. Broad St., will erect 4-story building on W. Grace St.; limestone and brick; Lindner & Phillips, Archts., American Natl. Bank Bldg.

W. Va., Charleston—R. A. Goff and Geo. P. Mathews will erect \$16,000 building on Capitol St.

W. Va., Huntington—J. B. Stevenson, Geo. S. Wallace and C. T. Taylor will erect \$40,000 store and apartment building, 6th St. and 14th Ave.

W. Va., Logan—White & Browning, Box 758; \$150,000 building; 45x125 ft.; 5 stories; fireproof; bids about Dec. 1; Meador & Handloser, Archts., Huntington. (Lately noted.)

Theaters.

Fla., Leesburg—H. M. Goethe will erect theater, 9th and Main Sts.; 2 stories; brick and stucco; seat 700 to 800; bids opened Oct. 20; W. H. Carr, Archt., St. Petersburg. (Lately noted.)

Md., Brunswick—Brunswick Amusement Co. will erect motion picture theater and assembly hall; 53x100 ft.; 2 stories; Otto G. Simonson, Inc., Archt., Md. Casualty Tower, Baltimore.

Md., Ridgely—Albert W. Saulsbury will erect moving picture theater; 36x84 ft.; seat 100.

Va., Portsmouth—Portsmouth Improvement Co. will erect building to replace Orpheum Theater previously noted burned; \$300,000.

Warehouses.

Mo., Joplin—Arthur Cox, 1617 Joplin St., will erect \$35,000 warehouse; 1 story and basement; 100x150 ft.; concrete blocks and stucco.

Tex., Dallas—Gulf, Colorado & Santa Fe R. R., F. Merritt, Ch. Engr., Galveston, will erect first unit of warehouse, Young and Poydras Sts.; \$200,000; 301x60 ft.; 42 ft. high; 2 stories and basement; 6 ft. platform extension; concrete foundation; steel, brick and hollow tile; 13 in. walls; concrete floors and roof; 27 steel sliding doors; six 5-ton scales; elevator lift; platform, 30x150 ft., at south end of first floor; plans \$100,000 addition later.

Tex., Sugarland—Imperial Sugar Co. will erect warehouse.

BUILDING CONTRACTS AWARDED

Apartment Houses.

Ala., Birmingham—Sam Fede; \$15,000 store and apartment building; brick; \$15,000; J. E. Salle, Archt., Empire Bldg.; Ganze & Zuana, Contra.

Association and Fraternal.

Va., Alexandria—George Washington National Masonic Memorial Assn., Louis A.

Waters, Prest., Scranton, Pa., will erect \$2,500,000 memorial temple, George Washington Park; 200 ft. high; marble; Helme & Corbett, Archts., New York; Osgood & Osgood, Consulting Archts., Grand Rapids, Mich.; Olmstead Co., landscape Archts.; Cranford Paving Co., Washington, D. C. Contr. for 8-ft. concrete foundation; also for 15-ft. granite wall around building to cost \$255,000. (Previously noted.)

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

Bank and Office.

La., New Orleans—Marine Bank & Trust Co.; alter store, Oak and Dublin Sts. for branch bank; Weiss & Dreyfous, Archts., Maison Blanche Bldg.; Ullrich Glass Co., Contr.

Miss., Laurel—First National Bank, \$125,000 building; 4 stories; Cecil O. Eure, Contr., Hattiesburg; sub-contract for additional story if needed.

Miss., Raymond—Merchants & Planters Bank; \$20,000 building; 2 stories; brick; offices and rest room on second floor; bank, doctor's office, store, etc. on first floor; contract let.

N. C., Charlotte—Geo. A. Smith, S. Church St., will add 1-story to present structure and erect 3-story addition in rear; brick; steel frame; 28 offices; to permit addition of 2 stories to new section and 1 story to old later; \$20,000; J. P. Hardy, Contr.

W. Va., Beckley—Beckley National Bank; bank and office building, Fayette and Main Sts.; 50x70 ft.; brick and stone; Richard M. Bates, Archt., Huntington; J. O. Freeman, Beckley, contr. at \$115,000.

Churches.

Fla., Jacksonville—Emmanuel Baptist Church; \$15,000 building, Center St. near Forest St.; stone; 34x50 ft.; 1 story; standard roof; inclined floor; concrete foundation; G. E. Curry, Archt.-Contr., 935 Forest St.

Fla., Miami—Immanuel Lutheran Church, Rev. H. E. Gibson, Pastor; \$15,000 building, N. W. 4th St. and 5th Ave.; 50 x 72 ft.; accommodate 400; provision for balcony later; J. P. Nielson, Archt.; Freeland Construction Co., Contr.

Fla., St. Petersburg—Congressional Church; Sunday school building; H. H. Dupont, Archt.; Moon & Hansen, Contrs.

Ky., St. Matthews—Holy Trinity R. C. Church, Rev. John Bonlsen, Pastor, will erect \$25,000 parish house; 2 stories and basement; 40x50 ft.; brick walls; stone trim; Fred Erhart, Archt., Merton Bldg., Louisville. (Lately noted at Ky., Louisville.)

Md., St. Helena—St. Rita's Church; temporary chapel and rectory; 2½ stories; brick; 38x36 ft.; 10 rooms and 3 baths; \$30,000; E. G. Blanke, Archt., 532 N. Calvert St.; E. Eyring & Sons, Contrs., 3501 Fair Ave.; both Baltimore.

Okla., Blanco—Methodist Church, Rev. S. B. Williams, Pastor, let contract to erect brick building.

Okla., Stillwater—First Presbyterian Church will erect \$45,000 building; brick; wood roof; cement floors; hot air heat, \$3500; electric lights; J. J. Patterson, Archt.; A. C. Cobb, contr. for foundation; superstructure not let. Address G. E. Moore.

S. C., Greenville—Central Baptist Church, C. O. Hobbs, Chrmn. Bldg. Comm.; \$150,000 building, Lloyd and Pinckney Sts.; 97x108 ft.; concrete, steel, stone and brick; slate roof; hardwood floors; steam heat; indirect lighting; J. J. Baldwin, Archt., Anderson. Address Morris & Jamerson, Contrs., Greenville.

Courthouses.

Miss., Hattiesburg—Forrest County; alter and erect addition to courthouse; over \$40,000; brick and frame; composition flat roof; tile and wood floors; Emmett J. Hull, Archt., Jackson; Massengale & McIntosh, Contrs., Hattiesburg.

Dwellings.

Ala., Birmingham—H. B. Hillhouse; \$17,500 dwelling; brick; steam heat; tile roof; J. E. Salie, Archt., Empire Bldg.; J. Blomeley, Contr.

Ala., Birmingham—T. O. Melton; \$19,960 dwelling; brick; tile roof; steam heat; J. E. Salie, Archt., Empire Bldg.; J. Blomeley, Contr.

Ark., Conway—Frank E. Robins; 2-story brick veneer dwelling, Locust and Scott Sts.; John P. Almand, Archt., Little Rock; Wm. A. Russell, Contr.

Fla., Miami Beach—F. M. Terry; \$10,000 residence, 1016-18 Pennsylvania Ave.; Spanish design; frame and cement; Hampton & Reimert, Archts., Miami; A. B. Wade & Son, Contrs.

Fla., Palm Beach—Clarence Hall, Washington, D. C.; \$25,000 dwelling and garage; 56x68 ft. and 20x20 ft.; stucco on 2x6 in. studs; Ludowick tile roof; concrete and Los Manos tile floors; Bruce Kitchell, Archt.; Chas. S. Rice, Contr.; both West Palm Beach.

Fla., Tampa—R. M. Anderson has contract to erect 10 dwellings in Ridgewood Park sub-division; \$50,000; brick and reinforced stucco.

Ga., Dawson—W. H. Dismuke; remodel and enlarge dwelling; \$10,000; pine and oak floors; concrete and brick foundation; weatherboarded; cypress shingle roof; T. F. Lockwood, Archt., Murray Bldg., Columbus; Shields & Gelse, Contrs., Dawson.

La., New Orleans—E. W. Burgis; alternations to dwelling, 526-8 Bouny St.; \$10,120; E. A. Pollack & Co., Contrs.

La., New Orleans—Johannes Realty Co. will erect number of dwellings in Elmeer, Metairie Rd.; about \$3000 each; contracts let for four.

La., New Orleans—A. F. Forestier; \$13,000 bungalow, City Park Ave. and Morgan Blvd. E. W. McKee Contr.

Md., Baltimore—Henry E. Blake; \$12,000 dwelling, 211 Chancery St., Guilford; 2½ stories; brick; W. H. Emory, Jr., Archt., Munsey Bldg.; C. W. Littleton & Son, Contrs., 4313 Liberty Hgts. Ave.

Miss., Holly Knowe—W. B. Swain; \$60,000 residence; 3 stories; buff brick veneer; red tile roof; tile and oak floors; garage; landscape changes; R. B. Spencer, Archt., Goodwyn Institute Bldg.; D. D. Thomas & Son, Contrs., Box 744; both Memphis, Tenn.; material contracted for.

N. C., Pinehurst—Leonard Tufts; 5 dwellings at Knollwood Village; 7 to 12 rooms; 1 brick veneer, 4 frame; rift pine floors; shingle roofs; brick foundations; built-in plumbing fixtures; 2-pipe steam heat; electric lights; Haven & Hoyt, Lyman Sise, Archts., 220 Devonshire St., Boston, Mass.; Pinehurst, Inc., Contr., including heating, lighting and plumbing.

S. C., Inman—Inman Mills; 50 employees' dwellings; W. M. Moore, Contr.

Va., Richmond—Lee A. Whitlock; \$35,000 dwelling, Monument Ave. and Roseneath Rd.; G. Herbert French, Archt.; A. F. Perrin, Contr.

Government and State.

La., Alexandria—Post Office and Court-house—Treasury Dept., Jas. A. Wetmore, Act. Supervising Archt., Washington, D. C.; extension, remodeling, etc., of post office and courthouse; Wm. MacDonald Construction Co., St. Louis, contr. at \$64,500.

Hospitals, Sanitariums, Etc.

Mo., Farmington—Board of Managers, State Eleemosynary Institutions of Missouri, Jefferson City; cow barn at State Hospital No. 4; \$12,350; 36x156 ft.; wood and concrete floors; concrete foundation; asbestos shingle roof; hay mow; electric lights; H. H. Hohen-schild, Archt., 401-02 Odd Fellows Bldg.; Murch Bros. Construction Co., Railway Ex-

change Bldg.; both St. Louis; equipment not in general contract.

Mo., St. Louis—Liberty Hospital; \$250,000 building, Washington Blvd. and Taylor Ave.; 40x200 ft.; 3 stories and basement; Helfen-steller, Hirsch & Watson, Archts.-Constr. Supervisors; H. O. Hirsch & Co., Contrs.

Tex., Corpus Christi—Sisters of Charity of Incarnate Work, Mother Mary John, Superioress, San Antonio; \$150,000 Spohn Sanatorium; 130x70 ft.; 3 stories; fireproof; reinforced concrete and brick; gravel roof; tile, concrete, composition and wood floors; steam heat; electric passenger elevator; electric dumb waiter; Atlee B. and Robt. M. Ayres, Archts.; Sumner-Sollitt Co., Contr., both San Antonio.

Hotels.

Mo., New Franklin—Missouri, Kansas & Texas R. R., Frank Ringer, Ch. Engr. Railway Exchange Bldg., St. Louis; \$30,000 hotel; 2 stories; 32x30 ft.; frame; A. L. Sparks, Archt., Railway Exchange Bldg., St. Louis; T. H. Johnson, Contr., Sedalia.

Miscellaneous.

Ala., Demopolis—Barn—Judge J. T. Stoke-ly, Birmingham; rebuild barn previously noted burned; shed, 55x204 ft., erected at once; main barn later; J. H. Brooker, Contr.

Fla., Eustis—Clubhouse—Lake County Country Club; \$10,000 building; Helme & Helme, Archts., Springfield, Ill.; J. B. Roberts, Contr., Eustis.

Ga., Atlanta—Market—Capital City Building & Market Co.; \$300,000 market, Peachtree and Cain Sts.; 1 story, basement and mezzanine; 143x235 ft.; concrete floors; roof and foundation; hollow fireproof and interior tile; metal ceilings; vault lights; ventilators; ornamental terra cotta; steel sash and trim; wire glass; Robert & Co., Inc., Archts.; Turner Construction Co., Contr.

Railway Stations, Sheds, Etc.

Fla., St. Augustine—Florida East Coast Ry., H. N. Rodenbaugh, Ch. Engr.; second unit general office buildings; 4 stories; hollow tile, brick and reinforced concrete; W. P. Richardson Co., Contr., Jacksonville.

La., Ponchatoula—Illinois Central Ry. Co., F. L. Thompson, Ch. Engr., Chicago; alter and erect addition to freight and passenger station; B. F. Davis, Contr., Memphis, Tenn.

Tex., Fort Worth—Missouri, Kansas & Texas R. R., Frank Ringer, Engr., St. Louis; extension to freight station; Sumner-Sollitt Co., Contr.

Schools.

Fla., New Smyrna—Volusia County Board of Public Instruction, Deland; \$19,524 addition to school; R. Knight, Contr., Deland.

Fla., West Palm Beach—Palm Beach County Board of Public Instruction, Agnes Ballard, Supt.; school on Military Trail; O. J. Williams, Archt.; Lee Long, Contr.

Ga., Oak Park—School Board; \$10,000 building; Jno. T. Ragan & Co., Contrs., Vidalia.

La., Covington—St. Tammany Parish School Board, Elmer E. Lyon, Secy.; \$24,275 grade school at Abita Springs; 1 story; 65x85 ft.; 6 classrooms and auditorium; brick and mill construction; Wm. T. Nolan and Peter Torre, Jr., Archts., Canal Commercial Bldg., New Orleans; J. L. Whitaker, Contr., Tylertown, Miss.

Mo., St. Louis—Board of Education, J. T. Tobin, Prest.; \$1,500,000 high school, Wyoming and Louisiana Aves.; 3 stories; 142x210 ft.; brick and stone; R. M. Milligan, Archt., Board of Education Bldg.; E. C. Gerhard Bldg. Co., Contr., Post Dispatch Bldg.; Sode-

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

man Heating Co., 23 Morgan St., heating;
J. A. McBride Plumbing & Heating Co.,
1007 Olive St., plumbing.
W. Va., Sistersville—Board of Education;
junior high school; \$61,977; Albert Dyhre
Constr. Co., Contr., Charleston.

Stores.

Ala., Birmingham—Brownlie Realty Co.;
\$10,000 store, 3rd Ave. and 23rd St.; 1 story;
brick; cement floors; concrete foundation;
D. O. Whitman, Archt.; F. E. Russell, Contr.
Fla., Bradentown—J. W. Johnson; 1-story
brick store, 420 Pine St.; 25x75 ft.; concrete
foundation and walls; J. C. Walden, Contr.
Ga., Atlanta—Wm. Candler; \$15,000 store;
2 stories; brick; H. J. Carr & Co., Contrs.
La., Houma—Houma Mercantile Co., Julius
Dupont, Mgr., Main and Barrow Sts.; ex-

pend \$20,000 to improve building; Montague
Constr. Co., Contr., Abbeville and New Or-
leans.

La., Lafayette—C. F. Gimmers; \$14,000
brick building; P. Oliver & Son, Contrs.,
Lake Charles.

Tenn., Knoxville—Daniel Briscoe Estate;
3 brick stores on Asylum Ave.; \$28,000; 2
stories; Lynn A. Hayes, Contr.

Tex., Paris—R. E. Stephens; \$12,000 store
and lodge building; 2 stories; Curtis &
Lightfoot; Archts.; Freese & Burford, Contr.
(See Mch'y. Wanted—Steel; Iron (Reinforc-
ing); Metal Ceiling; Brick; Roofing; Cemen-
t.)

Tex., San Antonio—A. Bisala; \$25,000 store,
Main Ave. and Locust St.; brick; 100x100 ft.;
W. H. Hagy, Contr.

Warehouses.

Ala., Birmingham—Morris Real Estate Co.;
expend \$15,000 to repair building on S. 20th
St., to be occupied by Goodman Transfer
Co.; Chas. M. Allen & Sons, Contrs.

Md., Baltimore—Baltimore Storage & Mov-
ing Co., 3710-20 Edmondson Ave.; \$80,000
warehouse, Charles and 26th Sts.; 50x89.7
ft.; 6 stories and basement; fireproof; brick;
concrete floors; slag roof; hot water heat;
Wyatt & Nolting, Archts., Keyser Bldg.;
Thomas Hicks & Sons, Contrs., 106 W. Madis-
son St.

Tex., Waco—Texas Fireproof Storage Co.,
A. B. Stringer and others; \$125,000 warehouse,
Mary and 11th St.; 4 stories; brick and con-
crete; Moores & Dunford Engineering Corp.,
Archts., Chicago; J. E. Johnson Constr. Co.,
Contr. Waco.

MACHINERY, PROPOSALS AND SUPPLIES WANTED

Anvils.—M. K. Frank, 917 Frick Bldg.,
Pittsburgh, Pa.—One or two anvils of about
300 lbs. weight, good second-hand serviceable
condition.

Bag Making and Patching Machine.—Chat-
tanooga Bag & Burlap Co., 5 E. Main St.,
Chattanooga, Tenn.—One Union special bag
patching machine and table complete also
one Union special bag making machine and
table complete; second-hand; lowest price.

Bathroom Fixtures.—L. L. Hutchins, 203
Atco Bldg., Tulsa, Okla.—Data and prices on
bathroom fixtures for 6 story hotel bldg.

Brick.—See Building Materials.

Blow-out Preventors (Oil Well).—R. A.
Munroe, Sec'y., British Empire Chamber of
Commerce in the U. S. A., 25 Broadway,
New York City.—To correspond with mfrs.
of oil well blow-out preventors.

Brick.—Freese & Burford, Paris, Tex.—
See Building Material.

Brick Shed and Wall.—Board of Awards,
Richard Gwinn, Register, City Hall, Balti-
more, Md.—Bids until Oct. 25 for erection and
completion of brick shed and wall at North-
ern Police Station; plans obtainable from J.
F. Crowther, Inspector of Buildings.

Bridge Construction.—State Highway Dept.,
Tallahassee, Fla.—Bids until Oct. 23 to con-
struct creosoted timber approaches to Dead
River Bridge, near Tavares, Lake County;
plans, etc. on file, from Div. Engr., Ocala,
Fla., or from County Engr., Tavares; W. F.
Coke, State Highway Engr., Tallahassee.
(Latest noted bids until Oct. 2.)

Bridge Construction.—Warren County Bd.
of Supvrs., J. G. Sherard Chancery Clk.,
Vicksburg, Miss.—Bids until Nov. 7 for
bridge over Big Black River, on South Scenic
reinforcing steel; 158,000 lbs. structural steel;
206,500 ft. creosoted and 10,600 ft. untreated
Highway, approximately 4 mi. from Kokena,
on Mississippi River Scenic Highway, be-
tween Vicksburg and Port Gibson; 9640 lbs.
lumber; 13,000 lin. ft. creosoted and 2000 lin.
ft. untreated piling; plans, etc. on file, or
from H. R. Rhodes, County Highway Engr.,
Vicksburg, Miss.

Bridge Construction.—Duval County Com-
mrs., Frank Brown, Clk., Jacksonville, Fla.—
Bids until Nov. 1 for creosoted wooden
bridge over Boat House Creek, on Capper
Road; plans, etc., on file.

Bridge Construction.—Mecklenburg County,
Board of Supvrs., N. G. Smith, Supv-
r., South Hill, Va.—Bids until Oct. 20 for
161 ft. concrete and steel bridge across
Meherrin River at Union Mills, Va.; super-
structure, reinforced concrete slabs; alternate
bids on concrete abutments and piers; I-
Beam girders; wood floor; also bids on re-

construction of old bridge, including rebuild-
ing of foundation piers and construction of
wood superstructure; plans, etc. on file and
from State Highway Comsn., Richmond, Va.

Building Materials.—L. L. Hutchins, 203
Atco Bldg., Tulsa, Okla.—Data and prices on
structural steel, cement, brick, tile, etc. for
fire proof building.

Building Material.—Freese & Burford, Pa-
ris, Tex.—Steel, iron reinforcing, metal ceiling,
brick and cement.

Building Material.—Acme Realty Co., R. H.
Perry, Mgr., 828 Fifth Ave., Huntington,
W. Va.—Building material.

Car (Chemical and Hose).—City Comsn.,
Jacksonville, Fla.—Bids until Oct. 26 to fur-
nish f.o.b. cars Jacksonville for Fire Dept.
one triple combination chemical and hose
car; pump to have capacity of 750 gal. per
min. at 120 lb. pump pressure, chemical tank
capacity not less than 35 gal., hose body to
carry 1000 ft. of 2½-in. hose, machine
equipped with 400 ft. chemical hose and reel
to carry 200 ft. chemical hose, also 12 ft. roof
ladder with folding hooks and siren horn
and locomotive bell, etc.; for further infor-
mation apply to T. W. Haney, Chief, Fire
Dept.

Cars.—Lake-Heltsley Coal Co., Beaver
Dam, Ky.—Prices on cars. for coal mine.

Castings, etc.—Southern Oil Burner Co.,
33 W. 4th St., Charlotte, N. C.—Bids for
patterns, brass and cast iron castings.

Cement.—See Building Materials.

Cement.—Freese & Burford, Paris, Tex.—
See Building Material.

Compressors.—Eastland County Gasoline
Co., Gorman, Texas—Compressors for 100,
000 refinery.

Compressor (Air).—C. F. Lewis, 713 Ohio
St., Wichita, Kan.—To purchase air com-
pressor.

Compressor (Air) and Tools.—Memphis Ar-
tesian Water Dept., James Sheahan, Acting
Gen. Supt., 105 N. 2nd St., Memphis, Tenn.—
Bids opened Oct. 17 to furnish, delivered f.o.
b. Memphis one portable gasoline engine
driven air compressor, mounted on steel
trucks and following tools: 4 pneumatic
hammers, 2-in. stroke; 4 sets lead corking
tools; 8 diamond point chisels; four 50 ft.
sections plain and wire wrapped hose for
necessary size, for use with above tools, each
length coupled complete; reamers for tamp-
ing back fill in pipe trenches. Address Board
of Water Commrs.

Concrete Caisson Breakwater.—U. S. Engr.
Office, Room 1201, 537 S. Dearborn St., Chi-
cago, Ill.—Bids until Nov. 6 to construct

concrete caisson breakwater at Indiana Har-
bor, Ind.; further information on application.

Cork Board.—Ice, Light & Gin Co., E. L.
Young, Prest., Fairfax, S. C.—Prices on small
quantity of cork board.

Crane (Electric).—M. K. Frank, 917 Frick
Bldg., Pittsburgh, Pa.—New or second-hand
1½ or 2 ton, small traveling electric crane,
to travel on single rail.

Dipping Machine and Forms.—Walter D.
Clark, Trustee, 708 Clark St., Houston,
Texas—Dipping machine and forms (new or
used) for use in mfr. of seamless rubber
goods, gloves, balloons, etc.

Drainage.—Board of Drainage Commrs.,
Greenville, Ky.—Bids until Nov. 1 for 162,000
cu. yds. of excavation for drainage ditch;
floating dredge.

Drainage.—Northern Drainage Dist. Com-
mrs., Shelby, Miss.—Bids until Nov. 2 to
construct approx. 26 mi. lateral ditches, in-
volving about 400,000 cu. yds. of earth;
ditches vary in sizes from 3 to 10 ft.; W.
W. Boone, Civil Engr., Cleveland, Miss.

Drainage.—McKinney Lake Drainage Dist.
Commrs., Tunica, Miss.—Bids until Oct. 30
for following work:

Contract No. 1—580,000 cu. yds. dredge
work.

Contract No. 2—411,400 cu. yds. floating
dredge work.

Contract No. 3—197,250 cu. yds. dry land
work excavation.

Contract No. 4—214,000 cu. yds. dry land
work excavation.

Contract No. 5—167,000 cu. yds. dry land
work; plans on file or with L. W. Mashburn
of Southern Engineering Co., Clarksdale,
Miss.

Drainage.—Victoria County Drainage Dist.
No. 4, O. M. Grier, Chrmn. of Commrs. Vic-
toria, Tex.—Bids until Nov. 6 to construct
drainage improvements, excavations and nec-
essary structures, involving about 220,000
cu. yds. dry land open ditch excavations,
382 lin. ft. of light wood bridges, etc.;
specification obtainable at office of J. G.
Johnston, Dist. Engr.

Electric Industrial Trucks.—City Comsn.,
Jacksonville, Fla.—Bids until Oct. 26 to
furnish and deliver at municipal docks, Tal-
lerand Ave., Jacksonville, two or more
elevating platform electric storage battery
industrial trucks, to run under 12-in. sky
and lift not to exceed 42-in., equipped with
A-6 Edison batteries with not less than 21
cells; give full specifications and time of
delivery; for full information apply to J. A.
Banks, Gen. Mgr., Municipal Docks.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

Facade Construction, etc.—Port Comms., Suite 200 New Orleans Court Bldg., New Orleans, La.—Bids until Oct. 26 to construct facade, laying of paving and coping walls at foot of Canal St.; plans with Supv. of Purchases, 1 Canal St.

Fire Equipment.—City Comms., Cary, N. C.—Bids until Oct. 21 for following equipment; two 35-gal. chemical tested tanks mounted on Ford 1-ton chassis, including all necessary parts, as hose, ladders, extinguishers, etc.; chassis to have pneumatic tires, electrical equipment, etc.; state price f. o. b. Cary; E. C. Yates, City Clk.

Furniture.—Max Chambers, High Point, N. C.—To correspond with mfrs. of furniture; view to representation.

Generator Set.—Wilson-Rock Co., (Mchy. Dealers) City Point, Va.—Direct current, direct connected generating set of about 50 to 75 K. W., desire engine driven unit.

Generator Set (Steam Engine).—Wood & Lane Co., St. Louis, Mo.—250 to 500 KW. steam engine generator set, direct connected, cross compound, Corliss engine.

Glue Spreader and Mixer.—Denton Mfg. Co., Denton, N. C.—To purchase one glue spreader and glue mixer.

Gravel.—Warren County, Board of Supvrs., Vicksburg, Miss.—Bids until Nov. 7 to furnish Warren County with necessary gravel for gravelling city cemetery roads; J. G. Sheppard, Chancery Clk.

Heating Plant.—W. H. Carr, St. Petersburg, Fla.—Heating plant for theater.

Heating Plant.—Hertford County Board of Comms., J. A. Northcott, Clk., Winton, N. C.—Bids until Oct. 23 to install heating plant for courthouse and jail.

Ice Cream Mchy.—T. M. Fry, Princeton, W. Va., Information and prices on good second-hand ice cream machinery.

Ice Plant Machinery.—Marshall Mott, 356 Randolph Bldg., Memphis, Tenn.—Complete mchy. to install about 20 ton ice plant.

Incinerator.—City of Waco, Tex., R. L. Stribling, City Controller.—Bids until Nov. 6 for erection of 20 ton incinerator.

Iron (Reinforcing).—Freese & Burford, Paris, Tex.—See Building Material.

Kitchen Equipment.—Henry Bensel & Son, 1820 Aiken St., Baltimore, Md.—Catalogs and prices of kitchen equipment.

Kitchen Equipment.—Miller Bros., 117-21 W. Fayette St., Baltimore, Md.—Catalogs and prices of kitchen equipment.

Labor Material Percentage Contract.—Sewerage and Water Board, Room 401, 526 Carondelet St., New Orleans, La.—Bids until Dec. 11 on labor-material percentage contract for year 1923; specifications and blanks obtainable on application.

Laboratory Equipment.—District Commissioners, Washington, D. C.—See Mechanical Equipment.

Lighting Fixtures.—Treasury Dept., Supv. Archt.'s Office, Washington, D. C.—Bids until Nov. 1 to furnish and install lighting fixtures in U. S. Veterans Hospital at Oteen, N. C.; plans on file.

Locomotive.—T. E. Stephenson, Monroe Sand & Gravel Co., Monroe, La.—80 ton, 6 driver locomotive.

Machine Shop Equipment.—C. F. Lewis, 713 Ohio St., Wichita, Kan.—To purchase welding outfit, hand tools, emery wheel and stand.

Machinery (Rubber Goods).—Walter D. Rogers, Trustee, 708 Clark St., Houston, Tex.—Prices on machinery for mfr. seamless rubber goods, gloves, balloons, etc.

Mechanical Equipment.—District Commis-

sioners, Washington, D. C.—Bids for furnishing and installing following equipment. In Eastern High School, Washington, D. C. will be received at Room 509, District Building, until Oct. 24, Oct. 30, Nov. 13 and Nov. 21; Chemistry, physics, biology and general science laboratories equipment; pupils' desks, chairs, window shades, flags, lanterns, screens, paper baler, typewriters, calculators, bookkeeping and changing machines, lanterns, maps, phonographs, pianos, safe, fire extinguishers, moving picture machine, motor generator set, pressure and vacuum pump, lawn mowers, equipment and supplies for sickroom, art metal room, conservatory and janitor's rooms; specifications now available. Woodworking shop equipment, cabinet work, miscellaneous classrooms, office and library furniture, furniture and equipment for domestic science, art and art metal department, lockers; specifications available October 16; gymnasium, laundry, lunchroom and kitchen and print shop equipment; specifications available October 30 stage auditorium, rifle range and miscellaneous equipment; specifications available November 8; information at Room 427, District Building, Cuno H. Rudolph, James F. Oyster, Charles Keller, Comms.

Metal Ceiling.—Freese & Burford, Paris, Tex.—See Building Material.

Miscellaneous Supplies.—Panama Canal, A. L. Flint, General Purchasing Officer, Washington, D. C.—Bids until Nov. 2 to furnish: Steel; rivets; bolts; nails; automobile; section cars; mowing machines; canoes; tiller rope; brass sheets; boiler tubes; pit tin; valves; storage batteries; glass; tires and tubes; stencil paper; blank books; quicklime; etc., Blank forms and information (Circular 1499) obtainable from Panama Canal; Asst. Purchasing agts. at 24 State St., New York, 611 Gravier St. New Orleans, Fort Mason, San Francisco, Cal.; U. S. Engr. offices throughout country.

Motor Generator Set.—Wood & Lane Co., St. Louis, Mo.—150 K.W. motor generator set, generator to be 250 volt, D.C. motor, 3 phase, 60 cycle 2300 volts.

Motors.—Taylor Mfg. Co., W. H. Taylor, Morristown, Tenn.—Prices on motors for woodworking plant.

Moving Picture Machine.—See Mechanical Equipment.

Nursery Equipment.—Valley Citrus Nursery Co., Banks L. Miller, Mgr., San Juan, Tex.—Prices on nursery equipment, etc., for development of 2500 acres.

Ovens.—Walter D. Rogers, Trustee, 708 Clark St., Houston, Texas.—Ovens for use in mfr. of seamless rubber goods, gloves, balloons, etc.

Paper Bag Machinery.—B. L. Ownbey, 1 Merrimon Place, Asheville, N. C.—To correspond with mfrs. of mchy. for making paper bags.

Paving and Sewer Construction.—T. E. Jennings, Mayor, Thomasville, N. C.—Bids until Oct. 27 to pave certain streets with brick, concrete or asphalt, with necessary curbing, gutters, storm drainage and sidewalks; 21,477 sq. yds. pavement; 4263 sq. yds. sidewalks; 15,890 lin. ft. concrete curb and gutter; 2961 lin. ft. granite curb to be re-set; 2902 lin. ft. 12 to 24-in. terra cotta storm drains; 7 Y's; 10 manholes complete; 20 drop and 15 end inlets, etc.; plans, etc., from B. H. Harris, City Clerk, or the J. B. McCrary Co., Engrs., Atlanta, Ga.

Paving.—A. R. Hunt, City Clk., Huntington, W. Va.—Bids until Oct. 27 to grade, pave and curb 5th Ave. from 13th to 16th Sts., and Court St. from 8th to 9th Sts.; plans, etc., from A. B. Maupin, City Engr.

Paving.—City of Cameron, Mo.—Bids until

Oct. 20 to grade, curb and pave Pine St. from 3rd to 4th; cement concrete. Address The Mayor.

Paving.—Jefferson County Board of Revenue, Birmingham, Ala.—Bids until Nov. 7 to pave 3rd Ave. from 12th to 18th Sts.; 11,000 sq. yds. 2-in. bituminous wearing surface on present brick foundation; \$16,000; C. J. Rogers, County Engr.

Paving.—J. J. Proctor, Mayor, Spring Hope, N. C.—Bids until Oct. 24 for 5000 sq. yds. concrete sidewalks, and 10,000 ft. concrete curb and gutter; alternate bids on granite curb and concrete gutter; plans, etc. from R. D. Gladding, Engr., Wilson, N. C.

Paving.—Comms. of Street Improvement District No. 314, R. L. Saxton, Secy., Little Rock, Ark.—Bids until Oct. 20 to pave 22 blocks on W. 12th St., between Battery and Lewis Sts.; plans, etc., from Philip B. Hill, Engr., 829 Southern Trust Bldg., Little Rock.

Paving.—City, Streets and Drains Committee, Augusta, Ga.—Bids until Oct. 26 to pave Greene St., from East Boundary to 15th St.; 80,000 sq. yds. pavement; 11,500 lin. ft. reset curb; 1500 lin. ft. new granite curb; 42,000 lin. ft. 30x6-in. gutter; plans, etc., from W. H. Wise, City Engr. and Commr. of Public Works.

Paving.—City Comms., John M. Buckley, Engr., Pawhuska, Okla.—Bids until Oct. 24 for 5900 sq. yds. vitrolithic concrete and 8200 sq. yds. asphaltic concrete paving; \$74,000.

Paving.—City of San Antonio, Tex.—Bids until Oct. 23 to improve E. Mulberry Ave.; curb, grade, lay foundation, etc.; bitulithic or rock asphalt topping. Address The Mayor.

Paving.—Tarrant County, W. E. Yancey, County Auditor, Fort Worth, Tex.—Bids until Oct. 23 to surface N. Main St. from Marine Creek to 28th St.; 1½-in. rock asphalt pavement, cold mixed; alternate bids on bitulithic, mackinite, amnesite, or other similar pavement; plans, etc. from Const. Engr.

Pipe (Ammonia) and Fittings.—Ice, Light & Gin Co., E. L. Young, Pres., Fairfax, S. C.—Prices on small amount of ammonia pipe and fittings.

Pipe (Sewer), etc.—Trustees of Memphis and Shelby County Tuberculosis Hospital, 105 Porter Bldg., Memphis, Tenn.—Bids opened Oct. 14 on following material, f.o.b. Oakville or Forsythe Station, Tenn.: 5750 lin. ft. of 10-in. and 900 lin. ft. of 8-in. vitrified sewer pipe; 100 lin. of 8-in. standard black merchant W.I. pipe with thread and ell; two 8-in. 45 degree black sewer ell; 60 lin. ft. cast iron water pipe, class A, bell and spigot; 8 sewer manholes, covers and seats; 18-in opening or larger; 4000 bricks; 5 yds. concrete gravel; 20 bbls. portland cement; 12 yds. sand, etc.; J. A. Price, Supt.

Pipe (Water).—City of Marlin, Tex.—Bids until Nov. 1 for approx. 562.5 tons coated 12-in. cast iron water pipe, to conform with the specifications adopted by American Waterworks Assn. in May 1908; bell and spigot pattern; the following quantities of straight pipe in 12-in. lengths will be required 13,703 lin. ft. diam. bell and spigot pattern.

Portland Cement.—Port Comms., Suite 200 New Orleans Court Bldg., New Orleans, La.—Bids until Oct. 26 to furnish 1700 bbls. Portland cement, according to dock board specifications; plans with Supv. of Purchases, 1 Canal St.

Press (Hydraulic).—Denton Mfg. Co., Denton, N. C.—To purchase hydraulic press.

Printers' Supplies.—O. F. Burleson, Pau Campbell, Ala.—To correspond with mfrs of printers' supplies, etc.

In writing to parties mentioned in this department, it will be of ad vantage to all concerned if the Manufacturers Record is mentioned.

Pumps.—Eastland County Gasoline Co., Gorman, Tex.—High and low pressure pumps for \$75,000 refinery, pipe ranging from 1/4 to 20".

Rails.—Lake-Heltsley Coal Co., Beaver, Dam, Ky.—Prices on rails for coal mining.

Rails.—T. E. Stephenson, Monroe Sand & Gravel Co., Monroe, La.—To purchase 1 1/4 mi. of good 60 lb. steel rails; delivery West Monroe.

Refrigerating Plant.—J. H. Ware, Princeton, Ky.—Data and prices on refrigerating plant, to care for about 2 cars.

Road Construction.—Princess Anne County, Board of Suprvs., J. C. Wood, Chrmn., Princess Anne, Va.—Bids until Oct. 24 for 4.88 mi. on Princess Anne road between Kempsville and Salem; waterbound macadam; alternate bids on gravel surfacing; plans, etc., from County Clk., Princess Anne, and State Highway Comsn., Richmond; E. J. Smith, Commonwealth Attorney, Bank of Commerce Bldg., Norfolk, Va.

Road Construction.—Tom Green County, J. T. Mathison, County Judge, San Angelo, Tex.—Bids opened Oct. 18 to improve State Highway No. 4; plans, etc., from Gibb Gilchrist, Engr., San Angelo, and from State Highway Dept., Austin.

Road Construction.—State Road Comsn., E. B. Carskadon, Secy., Charleston, W. Va.—Bids until Oct. 20 for following projects:

3152—McDowell County, grade and pave 3 mi. Welch-Cowwood road; rock asphalt.

3010—Mineral County, surface 2.5 mi. Northwest Turnpike between New Creek and Hampshire County line; shale surfacing; plans, etc., on file, or from Div. Engr.

Road Construction.—Palo Pinto County, E. L. Pitts, County Judge, Palo Pinto, Tex.—Bids opened Oct. 13 for 3.99 mi. State Highway No. 1; 21.153 cu. yds. roadway; 14,000.7 cu. yds. crushed stone base; 42,180 sq. yds. bituminous surfacing; 56,537 lbs. reinforcing steel; G. W. Courter, County Engr.

Road Construction.—Duval County Comms., Frank Brown, Clk., Jacksonville, Fla.—Bids until Nov. 1, to lay earth fill roadway bed on Capper Road; plans, etc., on file.

Road Construction.—Williamson County, H. A. Hodges, County Auditor, Georgetown, Tex.—Bids until Oct. 28 for 11.5 mi. Highway No. 2-C from Georgetown to Travis County line; Federal Aid Project No. 140-B; 108,317 sq. yds. paving; natural rock asphalt; inverted penetration method; plans, etc., from R. A. Nichols, County Engr., Georgetown, and State Highway Dept., Austin, (Latest noted bids until Oct. 10.)

Road Construction.—State Roads Comsn., 601 Garrett Bldg., Baltimore, Md.—Bids until Oct. 31 for following:

Garrett County—5 mi. State Highway from Luke to Bloomington; penetration macadam; Cont. G-24.

Alleghany County—1.6 mi. State Highway along Williams road; Cont. A-22.

Howard County—2.56 mi. State Highway along Old Frederick road from end of St. Johns Lane to Woodstock road; Cont. HO-26.

Montgomery County—1 mi. State Highway through Laytonville; Cont. M-39.

Montgomery County—1 mi. State Highway from Dawsonville toward Beallsville; Cont. M-38.

Montgomery County—1 mi. State Highway from Dawsonville toward Seneca; Cont. M-37.

Montgomery County—7 mi. State Highway from Seeks Corner to Prince Georges County line; Cont. M-40; all concrete.

Anne Arundel County—1 mi. State Highway from Tracey's Corner toward Nutwell; gravel; Cont. AA-26.

Road Construction.—State Highway Dept., Atlanta, Ga.—Bids opened Oct. 17 for following:

8.738 mi. concrete pavement, on Atlanta-Newman Highway; Campbell County, Federal Aid Project No. 174, Sec. C and D; 6-in. reinforced cement concrete; 6-7-6 plain cement concrete.

5 1/2 mi. macadam surfacing on Blue Ridge to Blairsville Highway; Fannin County, Federal Aid Project No. 118; 6462 cu. yds. clay-bound macadam; plans, etc., from W. R. Neel, State Highway Engr., Atlanta.

Road Construction.—State Highway Dept., Jefferson City, Mo.—Bids until Oct. 20 for 13,687 mi. State road from Platte City, south-eastward; Platte County, Federal Aid Project No. 96; plans, etc., on file from County Clk. or A. C. Lingley, Div. Engr., 615 Reliance Bldg., Kansas City, Mo. (Latest noted.)

Road Construction.—Coleman County, L. G. Matthews, County Judge, Coleman, Tex.—Bids until Oct. 19 to grade, gravel, construct drainage structures and two 100-ft. steel spans on following:

4.43 mi. Howe road.

6.41 mi. Coleman-Baird road.

17.31 mi. Santa Anna-Rockwood road; plans, etc., from W. E. Dickerson, County Engr., Coleman.

Rollers (Gravity).—Townsend Sash, Door & Lumber Co., Lake Wales, Fla.—Quantity of gravity rollers to be used in loading and unloading lumber.

Roofing.—Freese & Burford, Paris, Tex.—Gravel roofing.

Rope (American Hemp).—James H. Curran Elevator Co., 116 W. 2nd. St., Cincinnati, Ohio.—3/4 in. American hemp rope.

Sand and Gravel.—Port Comms., Suite 200 New Orleans Court Bldg., New Orleans, La.—Bids until Oct. 26 to furnish approx. 1700 cu. yds. gravel and 850 cu. yds. sand; plans with Supv. of Purchases, 1 Canal St.

Saw (Band).—Forest Products Co., Ltd., (Mchy. Dealers), Montgomery, Ala.—Fay and Egan, 36 or 40-in. band saw, second-hand; latest make.

Scales (Platform).—City Comsn., W. A. Evans, Chrmn., Jacksonville, Fla.—Bids until Oct. 26 to furnish and install in warehouses at municipal docks, Talleyrand Ave. five 5 ton built in platform scales with full capacity beam 9 ft. x 7 ft. platform complete, ready for use, further information apply to J. A. Banks, Gen. Mgr., Municipal Docks.

School Equipment.—District Commissioners, Washington, D. C. — See Mechanical Equipment.

Scows (Steel, Dump).—U. S. Engr. Office, Buffalo, N. Y.—Bids until Nov. 6 to construct three 400 cu. yds. steel dump scows; further information on application.

Seating.—District Commissioners, Washington, D. C.—See Mechanical Equipment.

Seating.—W. H. Carr, St. Petersburg, Fla.—About 500 seats for theater.

Sewer Construction.—U. S. Government, Capt. Howard, Constr. Qtmr., Aberdeen, Md.—Bids until Nov. 1 for sewer system extension in Edgewood Arsenal, Md.

Sewer Tunnel.—City of Tulsa, Okla., Charles Schultz, City Engr.—Bids until Nov. 2 for construction of storm sewer 5700 ft. long; 5100 ft. of which will be in tunnel cut; approx. size 14 1/2 x 15 1/2 ft.; plans, etc., from W. W. Horner, Const. Engr., St. Louis.

Sewage Disposal.—City of Miami, Fla., F. H. Wharton, Mgr.—Bids until Nov. 7 for furnishing motor driven sewage screen, including motors and necessary equipment; capacity 2100 gal. per minute; two motor driven centrifugal pumps, including motors and necessary equipment; capacity 2100 gals. per minute against total head of 30 ft.; 2400 ft. of 16 in. Class B cast iron pipe; specifications, etc., on file with Chas. W. Murray, Director of Public Service.

Shovel (Steam).—T. E. Stephenson, Mon-

roe Sand & Gravel Co., Monroe, La.—2 yd. long boom caterpillar steam shovel.

Sizer (Timber).—Forest Products Co., Ltd. (Mchy. Dealers), Montgomery, Ala.—Timber sizer to handle timbers 10-in. thick and about 14-in. wide.

Spikes.—Lake-Heltsley Coal Co., Beaver Dam, Ky.—Prices on spikes for coal mine.

Stage Scenery.—W. H. Carr, St. Petersburg, Fla.—Stage scenery.

Steam Heating Plants.—L. L. Hutchins, 203 Atco Bldg., Tulsa, Okla.—Data and prices on steam heating plants, etc. for 6 story hotel building.

Steel Buildings.—Eastland County Gasoline Co., Gorman, Tex.—Steel buildings for \$75,000 refinery.

Steel.—Carmichael Motor Co., Clarksburg, W. Va.—Prices on steel for 126x82 1/2 ft. building.

Steel.—Freese & Burford, Paris, Tex.—See Building Material.

Stills.—Eastland County Gasoline Co., Gorman, Tex.—Stills for \$75,000 refinery.

Storage Tanks.—Eastland County Gasoline Co., Gorman, Tex.—Storage tanks for \$75,000 refinery.

Structural Steel.—L. L. Hutchins, 203 Atco Bldg., Tulsa, Okla.—Data and prices on structural steel for fireproof building. (See Building Materials.)

Tanks, (Oil).—Southern Oil Burner Co., 33 W. 4th. St., Charlotte, N. C.—Prices on oil tanks in quantities from 200 gals up to 1000 gals.

Tile.—See Building Materials.

Turbine (Condensing, Steam).—P. O. Box, Seattle, Wash.—500 KW and 1500 KW condensing steam turbine complete, 125 to 150 lbs. gauge, 3 phase, 60 cycle, 2300 volts; might consider capacity in one unit; state condition and price.

Ventilation.—W. H. Carr, St. Petersburg, Fla.—Fan system of ventilation for theater.

Water Works and Electric Light System.—City of Utica, Miss., R. F. Cook, Mayor.—Bids until Nov. 9 for the following: one oil engine, directly connected to alternator, one belted alternator, switchboard, pumps, pole line material, 12,000 gal. oil storage tank, concrete foundations, repairs to building, etc.; plans, etc., from R. V. Currie, Clk. or at office of Swanson-McGraw, Inc., Engrs., 705 United Fruit Bldg., New Orleans.

Woodworking Machinery.—District Commissioners, Washington, D. C.—See Mechanical Equipment.

Woodworking Machinery.—Hightower Box & Tank Co., J. C. Evans, Treas., Box 1025, Station A, Atlanta, Ga.—To purchase Morgan No. 8 lock corner cutter; setting up machine and chuck nailer; Meehan Johnson trimmers.

Woodworking Machinery.—Spring City Gln Co., Tusculumbia, Ala.—Catalogs on wood-working mchy.

Woodworking Machinery.—Taylor Mfg. Co., W. H. Taylor, Morristown, Tenn.—To purchase plainer, jointer, 36-in. band saw, rip and cut-off saws, belt sander, line shaft pulleys, motors, etc.

Financial News

New Financial Corporations.

Fla., Jacksonville.—Title & Trust Co., capital \$250,000, organized.

Ga., Atlanta.—Atlanta Joint Stock Land Bank, capital \$250,000, incptd. with A. B. Simms, Pres.; Robert E. Harvey, Vice-Prest.; F. W. Allcorn, Jr., Secy.

Ga., Cumming.—Georgia State Bank, capital

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\$500,000, organized with W. D. Manley, Atlanta, Pres.; Jno. D. Black, Cashier. (Lately noted.)

Ga., Lumpkin—The National Bank of Lumpkin, capital \$25,000, inceptd. with J. S. Morton, Pres.; D. G. Bland, Vice-Prest.; H. J. Peagler, Cashier.

Ky., Louisville—Union Joint Stock Land Bank of Louisville, capital \$250,000, organized with Walter Howell, Pres.; J. W. Brantley, Secy.-Treas. (Lately noted.)

La., New Orleans—Cleveland Discount Co. opens branch in New Orleans with James Long Wright, Mgr.

Md., Baltimore—The Perelman Building and Loan Assn., 217 South Bond St., capital \$100,000 inceptd. by Kalman Perelman, Fannie Perelman, Jacob Becker.

Md., Baltimore—Altamont Building & Loan Assn., 67 Knickerbocker Bldg., capital \$300,000, inceptd. by Nathaniel S. Weinstein, Nathaniel H. Perry and Isaac Davinson.

Md., Baltimore—Graystone Building & Loan Assn., 2501 E. Preston St., capital \$520,000, inceptd. by Geo. W. Rebhan, Thos. J. Daly, and Jos. Sherbow.

Miss., Crystal Springs—Copiah County Building and Loan Assn. will organize, capital \$100,000.

Mo., Kansas City—North Kansas City Savings & Loan Assn., Capital \$250,000, organized with E. E. Davidson, Pres.; J. J. Kirschner, Secy.

N. C., Leaksville—First National Bank, chartered with S. L. Martin, Pres.; A. E. Maler, Cashr.

N. C., Winston-Salem—The Farmers Bank and Trust Co. and the Farmers National and Trust Co. have merged.

S. C., Greenwood—A proposed life, accident and health insurance company will be inceptd. by H. M. Graham, J. B. White, Jr., O. R. Rudisill and F. K. Graham, capital \$50,000, to be known as the Piedmont Insurance Co.

S. C., Greenville—The Liberty Life Insurance Co., and Home Life and Accident Insurance Co. merged as the Liberty Life Insurance Co., W. Frank Hipp, Pres.; H. L. Vogel, Secy.

W. Va., Wheeling—Real Estate Finance Co., No. 25 11th. St., capital \$250,000, inceptd. with H. L. Kirk, Pres.; Jos. H. Reass, Jr. Secy.

New Securities.

Ala., Anniston—Sewer—City, J. L. Wickle, Mayor, receives bids until Oct. 25 for \$56,000, 6%, \$1000 denom. bonds, as follows: \$31,000 for sanitary sewers, and \$25,000 storm sewers.

Ala., Mobile—Improvement and Paving—R. V. Taylor, Mayor, receives bids until Oct. 23 for \$92,000, 5%, \$1000 denom. bonds of Paving Venture No. 16.

Ark., Marion—Viaduct—Crittenden County Comms. contemplates voting on \$1,000,000 bonds.

Fla., Clearwater—City Council will vote on \$25,000 bonds for establishing baseball parks.

Fla., Gulfport—School—Pinellas County School Board, C. C. Carr, Chrmn., will vote Nov. 21 on \$10,000 bonds for Oak Park community of Gulfport School Dist.

Fla., Port Tampa—Improvement—G. B. Sayers Co., Jacksonville, purchased \$25,000 bonds.

Fla., Tavares—Court House—Lake County

voted \$250,000 bonds. Address County Commissioners.

Ga., Cedartown—Road and Highway—Polk County Comms., T. W. Schliestett, Clk., receives bids until Nov. 3 for \$100,000, 5½%, \$1000 denom. bonds.

Ky., Greenville—Road—Muhlenberg County will vote in Nov. on \$500,000 bonds. Address County Comms.

Ky., Hazard—Road—Perry County Fiscal Court, J. A. Smith, County Judge, votes Nov. 7 on \$500,000 bonds.

La., Bastrop—Road—Morehouse Parish Police Jury, votes Dec. 16 on \$1,150,000 bonds; Road Dist. No. 1, on \$329,700; Road Dist. No. 2, on \$820,300.

La., Covington—School—City sold \$30,000 bonds to the Commercial Bank and Trust Co., Covington.

La., New Orleans—Railroad—City will vote on \$5,000,000, 6% bonds. Andrew J. McShane, Mayor.

Miss., Jackson—Indebtedness—State Bond Improvement Comsn., receives bids until October 17 for \$1,000,000 bonds, interest not over 6%. Frank Roberson, Atty. General Secy. (Lately noted.)

Miss., Pascagoula—Paving—City will issue \$22,000 bonds.

Miss., Tunica—Drainage—McKinney Lake Drainage Dist., Comms. sold \$230,000 bonds.

Miss., Vicksburg—Improvement—J. J. Hayes, Mayor, and Aldermen receive bids until Nov. 6 for \$685,000, 5%, \$1000 denom. bonds.

Mo., Charleston—Road—The Airline Special Road Dist., I. D. Lair, Pres. Bd. of Comms. sold \$140,000 bonds to the Mo. Valley Trust Co., St. Louis. (Lately noted.)

Mo., Kansas City—School—School Dist. will vote Oct. 28 on \$5,000,000 bonds. D. M. Pinkerton, Pres. Bd. of Directors.

N. C., Asheville—Sewer—Water and Incinerator—City, F. L. Conder, Secy. and Treas., authorizes the issuance of \$50,000, sewer, \$50,000 incinerator, and \$100,000 water bonds.

N. C., Bolton—Bd. of Drainage Comms. Columbus County Drainage Dist. No. 2 receives bids until Nov. 20 for \$60,000, 6% bonds. F. L. Finkenstaedt, Chrmn.

N. C., Fayetteville—Road and Bridge—Cumberland County sold \$250,000, 5% bonds to Frank B. Cahn and Co. and Mercantile Trust and Deposit Co., of Baltimore and New York.

N. C., Halifax—County Home—Bd. of Halifax County Comms., receives bids until Nov. 6 for \$40,000, 5%, \$1000 denom. bonds. R. L. Dickens, Clk.

N. C., New Bern—Indebtedness—Craven County Comms. sold \$300,000, 5% bonds at par and accrued interest. Henry Whitehurst, Atty.

N. C., Wilmington—Street and Water—City sold \$450,000 bonds to Fifth-Third National Bank, Chm.

N. C., Winton—School—The County Bd. of Education sold \$10,000 bonds at par and accrued interest, with premium to Hanchett Bond Co., Chicago.

S. C., Anderson—School—Anderson County, Board of Trustees, School Dist. No. 3, Hammond School Dist., will vote Oct. 26 on issuing and selling \$2600 of 6% 20-yr. semi-annual bonds; John C. Pruitt, Trustee.

S. C., Bamberg—School—School Dist. No. 14, receives bids until Oct. 30 for \$35,000, 6% bonds. G. O. Simmons, Secy., of Bd.

S. C., Charleston—Road—Mississippi Valley Trust Co., purchased \$140,000 bonds of Carolina Special Road Dist.

S. C., Charleston—Railroad—Christ Church Parish will vote in November on \$150,000 bonds.

S. C., Chester—School—Board of Education,

M. E. Brachman, Supt., Box 378, plans voting about Dec. 1 on bonds.

S. C., Spartanburg—Highway—County Comms. sold \$250,000 4½% bonds to A. M. Law & Co. through Spartanburg Bankers. (Lately noted.)

S. C., Union—Street—City Comsn., Emslie Nicholson, Chrmn., contemplates voting on \$150,000 bonds.

Tex., Bay City—Road—Matagorda County Comms. Court plans voting on \$2,000,000 bonds.

Tex., Cleburne—Paving—City, Defrank Howell, Mayor, contemplates issuing \$160,000 bonds.

Tex., McLean—Street, Waterworks, Light and Power—City, T. A. Landers, Mayor, receives bids until Oct. 25 for \$74,000,000 6%, \$1000 and \$500 denom. bonds.

Tex., Port Arthur—School—Bd. of Comsn. receives bids until Oct. 19 for \$675,000 bonds.

Tex., Sanderson—Road—Terrell County, Comms. sold \$250,000, 5½% bonds as follows:—to Blanton Banking Co., Houston, \$240,000 at par interest and premium of \$1275 and \$10,000 bonds to Sanderson State Bank.

Tex., Taylor—School Auditorium—City will vote Nov. 6 on \$32,000 bonds. Address City Comms.

Va., Clarendon—(Branch of Washington, D. C.) School—Arlington Magisterial Dist. voted \$54,000 bonds. Address Dist. School Trustees.

Va., Fairfax—Highway—Falls Church and Arlington County will vote on \$275 bonds.

Va., Norfolk—Municipal Auditorium—City will vote Nov. 7 on \$2,000,000 bonds. Address The Mayor.

Va., Norfolk—City sold \$3,822,000, 4½% and 5%, \$1000 denom. bonds to Hayden, Stone & Co., New York.

W. Va., Bluefield—School—Board of Education of Beaver Pond Dist., L. T. Tuslin, Secy., votes Nov. 7 on \$500,000 bonds.

W. Va., Buckhannon—Road—Upshur Ings & Loan Assn., capital \$250,000, organized.

W. Va., Buchannon—Road—Upshur County, Comms., Ernest Phillips, Clk., will improve roads; vote No. 7 on bonds as follows:

Meade Dist., on \$80,000, to improve French Creek and Little Kanawha pike; state road. Banks Dist., on \$109,000, to improve French Creek and Little Kanawha pike.

Union Dist., on \$65,000, for Parkersburg and Staunton pike.

W. Va., Princeton—School and Levy—Bd. of Education Beaver Pond Dist. will vote Nov. 7 on \$5000, \$1000 denom. bonds.

W. Va., Ridgeway—Light and Waterworks—Town will vote Oct. 24, on bonds.

Financial Notes.

D. C., Washington—The Liberty National Bank will increase capital to \$500,000. George O. Watson, Pres.

Ga., Athens—Hinton Securities Co., M. H. Hinton, Pres., increased capital to \$200,000.

Ga., Savannah—The Citizens and Southern Bank increased capital to \$3,000,000. Mills B. Lane, Pres.

Mo., Kansas City—The Federal Building and Loan Assn. will double capital.

Mo., St. Charles—The St. Charles Building and Loan Assn. will vote in December on increasing capital to \$800,000.

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

the corporation is prepared to furnish technical specifications for various steels and give estimates on road and plant construction, and do engineering work generally.

Officers of the John T. Hill & Co., Inc., are: John T. Hill, president; Simon S. Martin, vice-president; K. Landefeld, secretary and treasurer, and A. E. Rudolph, general manager. The personnel of the new company is composed of men of long training and experience in their various lines. The R. C. Hoffman Co. organization was for 50 years one of the outstanding iron and steel merchandising houses in the country and now that it has retired from business it has been succeeded by the new company whose president was for 50 years since early boyhood, connected with the Hoffman Co.

Sales Engineer Appointed.

J. B. Clark, Jr., has recently become associated with the Pennsylvania Crusher Co., of Philadelphia, as sales engineer, and will make his headquarters at the company's New York office, Hudson Terminal Building, 50 Church Street. For a number of years Mr. Clark has been associated with the Koppers Company, of Pittsburgh, in the erection and operation of by-product coke plants, including the Seaboard plant at Jersey City. He will give particular attention to engineering co-operation in connection with the installation of the company's coal preparation machinery which has long been specialized for coal preparation in coal mines, by-product coke plants, power plants, gas works and central stations.

Large Car Contract Let.

The General American Car Co., a subsidiary of the General American Tank Car Corporation, has received an order from the Chicago & Northwestern Railway Co. for 800 composite gondola cars of 50 tons capacity and 200 steel flat cars of 50 tons capacity.

Big Contract for Special Pipe.

An order for 60,000 feet of 1½-inch "McWane Precalced Joint" cast iron pipe, has just been placed with the McWane Cast Iron Pipe Co., Birmingham, Ala., by the city authorities of Philadelphia, Pa. The pipe will be used for laterals in the Torresdale filtration plant, said to be the largest filtering plant in the world. Cast iron pipe was selected because of its lasting qualities, while the McWane Company specializes in the same sizes of such pipe. The company was organized this year by J. R. McWane, president, who was formerly at the head of the American Cast Iron Pipe Co., and who was present at the letting of the contracts in Philadelphia. Its products are now being manufactured in a leased plant pending completion of its own large pipe foundries in East Birmingham.

Large Concrete Building Contracts.

The Turner Construction Co., 244 Madison Ave., New York, has been awarded a contract by the Capitol City Building & Market Co., Atlanta, Ga., for the construction of a new market, 145 by 243 feet in area, 1 story high with basement and mezzanine floor, and to be of reinforced concrete construction throughout, the architects being L. W. Robert & Co., also of Atlanta. The Turner Company has also resumed construction on two cotton mills, one for the Flint Manufacturing Co., Gastonia, N. C., to have 12,000 spindles, the building to be 136 by 385 feet in dimensions and of two stories but no basement; the other for the Arkray Mills, also of Gastonia, to have 20,000 spindles and 136 by 471 feet, likewise two stories without basement.

To Build Mine Cars.

M. K. Frank, Frick Building, Pittsburgh, Pa., has recently equipped a new plant at Carnegie, Pa., for the manufacture of mine cars for all purposes.

Sales of Southern Real Estate.

Ed Perry Butler, Belair Court, Atlantic City, N. J., reports that during the past year he made sales of Florida real estate as follows: West End Park, Miami; Biscayne Park Estates, Miami; Eau Gallie By The Sea; Bethesda Park and Riviera, at West Palm Beach. This season he will place on sale at St. Petersburg, Fla.; 5000 acres of property belonging to the estate of the late Dr. Davis, a pioneer in the work of building an electric railway there and also the local electric light plant, the heirs of this estate being now at 1914 Cherry St., Philadelphia, Pa. Mr. Butler is also preparing for sale next spring 2300 lots and 1400 acres of farm lands in the southern part of Virginia.

Vice President Appointed.

John F. Price has been appointed vice president of the George T. Trundle, Jr. Engineering Co., 118 St. Clair Ave., Cleveland, Ohio, making complete its service in organization, development, production and distribution. He was formerly comptroller of the Brown Hoisting Machinery Co., also of Cleveland, with which he was connected during the last fifteen years. At one time he was vice president of the Society of Industrial Engineers and now is one of its directors. In his new connection Mr. Price will be associated with Mr. Trundle in the management of the company and will serve clients on matters of finance, costs and sales.

Department Re-Established.

The F. S. Pearson Engineering Corporation, Suite 927 Fisk Building, 57th St. and Broadway, New York City, has re-established its department for industrial management and technical auditing of industries and public utilities. It will be carried on together with the usual work of financing, developing, designing and construction of engineering projects and industrial plants.

Good Roads Stimulate Truck Farm Developments.

Jefferson City, Mo., October 14.—The establishment of better highways in Missouri has started a movement for small farms near the large markets of the state, according to Chief Engineer Pietmier, of the State Highway Commission.

Indications are that many large farms will soon be divided into small tracts of lands and special attention paid to truck farming. The owners realize that good roads, over which they can reach the markets quickly at all seasons of the year, will make possible better profits from land devoted to several crops, as compared with a large area cultivated for a single crop.

Tampa Organization to Award Houses as Prizes for Increased Membership.

The Quarter Million Club of Tampa, Fla., will offer prizes of two houses, with a value including the lots of \$5000 each, for the two organizations which secure the most new members for the Club or the largest number of contributing members for the Club. Co-operation has been promised by local architects and laboring men, and the building material men are expected to furnish the necessary supplies for the erection of the houses.

Mill Purchased—Improvements to Be Made.

Lincolnton, N. C., Oct. 13.—[Special.]—The Williams Cotton Mills of this city have been purchased by Capt. C. E. Childs and associates from the Philadelphia owners. Application has been made for a charter under the name of Excell Manufacturing Co. A number of improvements are contemplated, and it is hoped to have the mill in operation within the next thirty days.

Home Building Exhibits of Special Interest to Farmers Prove Successful.

New Orleans, La., Oct. 14.—[Special.]—Gratifying results of efforts to stimulate the interests of the general public and especially the farmers in home building and farm improvement, by means of attractive exhibits at various state and district fairs, were reported to the Southern Pine Association by L. E. Sigur and A. G. Hill, in charge of the Association's "Own Your Home" exhibits at recent fairs, on their return to New Orleans last week.

At least 1,000,000 persons visited the Association's "Own Your Home" exhibits at four cities, and among these visitors were thousands of farmers, for whose benefit a number of special features were included in the exhibits. Thousands of requests were made at the Association's exhibit booths for copies of "Modern Homes," "Farm Buildings," "Southern Pine—What It Is—What It Is Used For," and other books and literature containing information on home building, published and distributed by the Southern Pine Association.

The exhibits included supplies of the booklets and literature of the Association, photographs of attractive homes and floor plans, miniature model bungalows erected to scale, panels of wood showing Southern pine flooring, ceiling, siding and various finishes, miniature model rooms with built-in cabinets and furniture, and various other features making for convenience and comfort in both city and country homes.

Bids will be opened October 31 for the \$1,000,000 Soldiers Memorial building to be erected in Baltimore. It will be 107 by 189 feet, on a site 176 by 280 feet. A hall with a seating capacity of 1600 and a gallery seating 110 persons will occupy the entire second floor. Laurence Hall Fowler is the architect.

Trade Literature.

Crane Excavator Bulletins.

The Koehring Company, Milwaukee, Wis., has issued two handsomely printed bulletins in colors, one relating to its crane excavator No. 2 and the other to crane excavator No. 3. Each bulletin has large pictures showing the excavators at work, one of the illustrations being a reproduction of a view at night with powerful electric lights used for working. Complete specifications are given for each of these machines.

Daylight Efficiency In Factories.

"Daylight, the Natural Illuminant," is the title given by the Skybryte Company, of Cleveland, Ohio, to a 48-page book which tells about the best kind of glass to install in factories and other buildings to obtain the greatest amount of illumination from nature's source of light. Daylight is shown to be not only the best for the eyes of people, but also for their general health because it is a germ killer. There are a number of illustrations which make plain the extended advantages of perfect lighting from windows in all structures where workers are gathered.

Publications Concerning Steel.

The Carnegie Steel Co., Pittsburgh, Pa., has gotten out a second edition of its "Pig Iron Pamphlet," a publication of 40 pages which represents the accepted and approved methods of the chemists of the United States Steel Corporation for sampling and analyzing pig iron. Other pamphlets issued by the company concern gases, iron ores, alloy steels, ferro-alloys and bearing metals, and fluxes, cinders and refractories, respectively. There is also a large book entitled "The Making, Shaping and Treating of Steel," which is used as a text book. Another volume entitled "Coal, Coke and By-Products," is to be issued about December 1.

Surveying Instruments, Etc.

The Warren-Knight Company, manufacturers of "Sterling" surveying instruments, engineering and drafting supplies 136 North Twelfth Street, Philadelphia, Pa., have issued a new pamphlet illustrating and describing their latest models of transits and levels, showing many new and exclusive time-saving features of distinctive value to engineers, building contractors and architects. A price list is attached. The pamphlet is finely printed and the pictures exactly represent the different products. A copy of the publication will be sent to anyone on request.

New York Merchants Year Book.

The Year Book of the Merchants' Association of New York for 1922, has just been issued and is being distributed. The membership of the Association is 6174 and since its organization 25 years ago the enrollment has been increasing and constantly broadening its scope with firm and corporate membership, which has always been preponderant and which now constitutes 85 per cent of its support. The textile industry and banking continue to constitute the principal divisions of business as to numbers and membership is large and representative, especially in trades and industries as follows: Food products and kindred lines; men's apparel and furnishings; transportation and shipping; leather and boots and shoes; paper and paper products; insurance; heavy hardware and machinery; women's and children's wear; drugs, chemicals, colors, oils and paints; iron and steel and other metals; engineering, building and building equipment; jewelry stocks, and realty. The membership bureau

of the Association has prepared an eligible list of nearly 14,000 names and it is from this source that additional membership will be drawn.

Book Review.

Color and Its Applications. By M. Luckiesh. New York: D. Van Nostrand Co.

This is the second edition of this valuable work which was first copyrighted in 1915. It is now enlarged and otherwise improved with the addition of a new and lengthy chapter. The object of the author in its preparation was to treat the science of color in a condensed manner for the benefit of persons interested in the many applications of color which are constantly increasing, as he remarks, in scope and interest. He has endeavored to cover as many phases of his subject as possible within proper limitations, but there are sundry interesting

phases of color science which have been barely touched, and some have been omitted, because of a desire to avoid going too far. The author believes, however, that his book will be helpful and accordingly appreciated by individuals interested in any of the arts involving the science of color. Much of the work involves his own conclusions as the results of long experimental activities and he has aimed to include those supported by experimental data, but he also remarks that he has drawn freely upon the work of other investigators to make the volume comprehensive. Some changes have been made in the original text. In conclusion the author records' acknowledgments to the management of the National Lamp Works of the General Electric Co., "whose broad-minded spirit in establishing the Nela Research Laboratory, has made this work possible, and to the director of the laboratory and members of the staff, who have always given freely of their time and counsel."

INDUSTRIAL NEWS OF INTEREST

Items of news about industrial, railroad or financial interests, building operations, construction work, municipal improvements, or the sale of machinery or the letting of contracts in the South or Southwest, are invited from our readers whether they are advertisers, or subscribers or not. We invite information of this character from readers in the North and West about their Southern business operations, as well as from Southern readers. News of value will be published just as readily when from non-advertisers as from advertisers.

Complete Exhibit at Greenville.

The McClave-Brooks Company, of Scranton, Pa., manufacturers of McClave combustion systems, will have at the Southern Textile Exposition at Greenville, S. C., from October 19 to October 25, inclusive, an exhibit of their hand-fired stokers and sectional-top shaking and dumping grates and also of the McClave Argand steam blowers. The exhibit will be in booths 179, 180 and 181 and will be in charge of J. C. Sanders, manager of the Greenville office.

Sale of Machinery, Tools, Etc.

As the Emergency Fleet Corporation is about to vacate Hog Island, near Philadelphia, an important sale of equipment, machinery and supplies will be held on the premises at 10.30 A. M., daily on Wednesday, Thursday and Friday, November 1, 2 and 3, respectively. The sale will include heavy machine tools, motors, pumps, engines, drills, reamers, pipe, valves, gauges, contractors' equipment, searchlights, boilers, tanks, anchors, etc. Further particulars will be found in the formal announcement elsewhere in this issue. The sale will be conducted by Samuel T. Freeman & Co., auctioneers, of 1519-1521 Chestnut Street, Philadelphia.

To Manufacture A New Steam Turbine.

The Standard Turbine Corporation, of Wellsville, N. Y., incorporated during the past summer, is putting on the market a steam turbine engine which it is claimed is adapted particularly for steel mill service and is suitable for connection to pumps, blowers and generators either directly or by means of gears. The officers of the Corporation include Josef Y. Dahlstrand, president and manager, as well as engineer of the organization, who was until lately and for six years chief engineer of the Kerr Turbine Co. of Wellsville and prior to that connection held positions with the Allis Chalmers and also the Westinghouse Electric & Manufacturing companies. E. C. Brown, president of the largest banking institution in Wellsville, is vice-president; Richard Gardner, president of the Friendship Pattern Works, Friendship, N. Y., is secretary, and Olin Brown, president of the Brown & Duke Coal Co., is treasurer. Wm. Brannen, of Bolivar, N. Y., a prominent oil producer and

manufacturer is also a director. Concerning the Standard turbine it is stated that it has been designed and built as heavy and rigid as possible to meet the requirements of service and insure long life, besides being made of the best class of material, but it has been the aim of the designer to reduce the number of parts and to omit all labor possible where such reductions have no bearing upon the performance of the machine. The bearings and the shaft especially have been made heavy and other parts in relative proportion. All moving parts are enclosed. The corporation has already booked a number of orders.

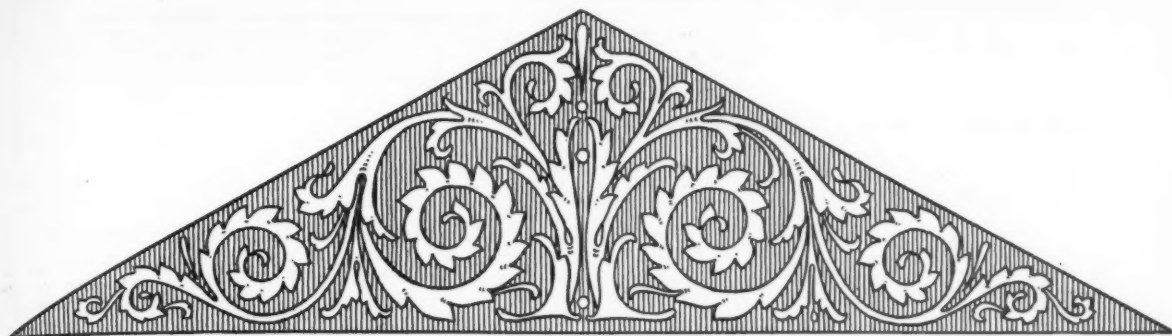
Sale of Shipyard and Equipment.

An important public auction sale by order of the liquidating agent of the International Shipbuilding Co., Inc., will take place at Pascagoula, Miss., at 10 A. M., daily on Thursday, Friday and Saturday, October 26, 27 and 28, respectively, and will include a valuable shipbuilding plant, including all real estate and improvements, fabricated steel buildings, hotels, apartment houses, bungalows and other buildings, besides machinery, ship supplies, tools and equipment, all valued at over \$3,000,000. Further particulars will be found in the formal announcement elsewhere in this issue. The sale will be conducted by the Fitzpatrick-Till Auction Co., Inc., of 225 Royal Street, New Orleans.

New Iron and Steel and Engineering Corporation for Baltimore.

Some of the former members of the R. C. Hoffman & Co., Inc.—Maryland Bolt & Forge interests, Baltimore, have organized a new iron and steel engineering concern. Mr. John T. Hill, formerly president of the R. C. Hoffman & Co., Inc., announces the organization of the John T. Hill & Co., Inc., inspection and consulting engineers, and dealers in iron and steel, scrap and relaying rails. The new company will continue business in Baltimore along the same lines as the old R. C. Hoffman Co. organization, with the added feature of engineering and inspection, and also valuation work.

Expert facilities for handling relaying rails, track materials, buying and selling of iron and steel scrap, also the dismantling of abandoned railroads, etc., are provided, and



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Sulfogene Yellow GG
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Sulfogene Golden Brown R
Sulfogene Cutch O
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Sulfogene Dark Brown GN Ext.
Sulfogene Bordeaux G
Sulfogene Bordeaux B
Sulfogene Green M Conc.
Sulfogene Navy Blue GL Conc.
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Sulfogene Carbon M Conc.
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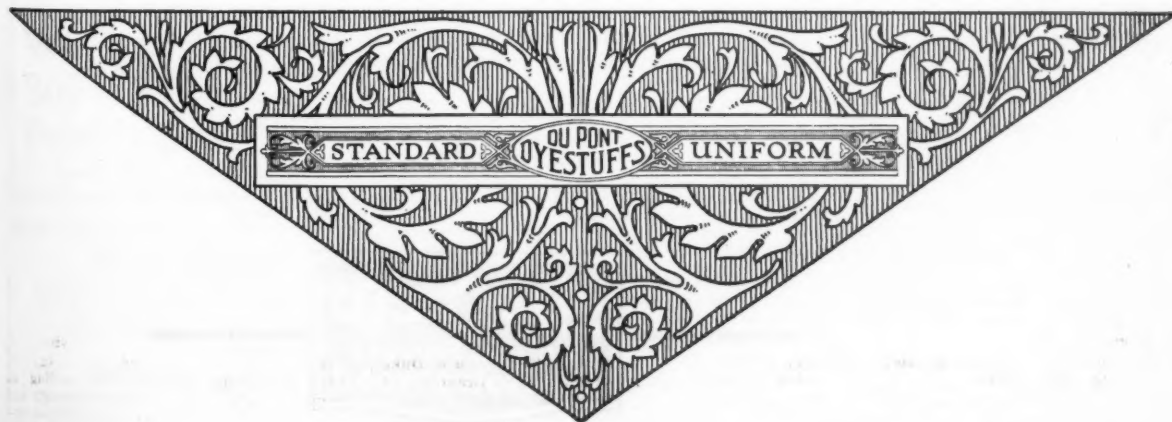
E. I. du Pont de Nemours & Co., Inc.

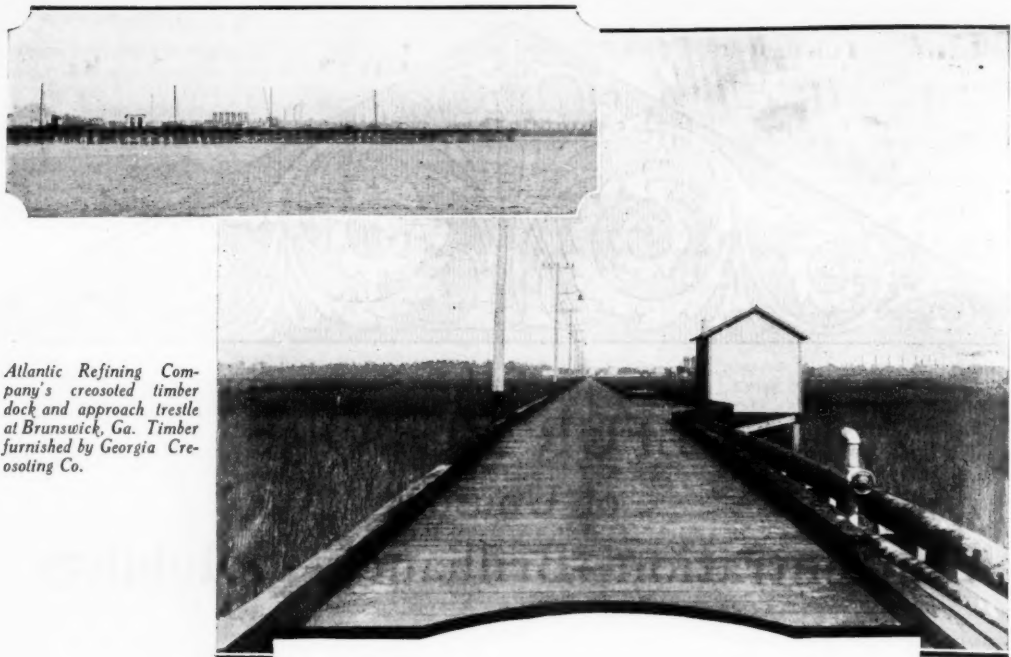
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Atlantic Refining Company's creosoted timber dock and approach trestle at Brunswick, Ga. Timber furnished by Georgia Creosoting Co.

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The best possible protection against borers is proper creosoting and the same treatment renders the timber practically immune to decay. Engineers have been conservatively slow in the adoption of creosoted timber for dock construction, very properly wanting to observe the service of such structures over a period of years.

The more rapid adoption of this type of construction is now evident, however, from the frequent instances of recent structures built entirely of creosoted timber.

The severe conditions to which dock piling and timbers are subject makes it imperative that only the best oil and a full penetration treatment shall be used. The safe way to insure such treatment is to deal with timber preserving companies of established reputation in the field.

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W. L. SLAYTON & CO.

New Orleans, La. Toledo, Ohio Tampa, Fla.
Chicago, Ill. Glasgow, Mont.

TWENTY-EIGHTH ANNUAL REPORT

OF Southern Railway Company Year Ended December 31, 1921.

Richmond, Va., October 10, 1922.
TO THE STOCKHOLDERS OF SOUTHERN RAILWAY COMPANY:

The Board of Directors submits the following report of the affairs of the Company:

The income account for the year ended December 31, 1921, which was published in March last and showed a balance of \$2,026,622 over fixed charges, is here reproduced as the first of the accompanying tables of financial data and statistics. It should be stated, as will be obvious on a comparative study, that some of the non-operating income figures include items, made available through settlements between the Federal Government and affiliated companies, which are not normally income on capital operations during that year.

This report will be devoted to a discussion of matters of current interest.

OPERATIONS.

The financial results from operation for the first half of the current year present a gratifying comparison with the year 1921. During the six months from January first to June 30, 1922, the operating income remaining after the payment of expenses, taxes, hire of equipment and joint facility rents amounted to \$8,877,425, an increase of \$6,733,478 over the \$2,143,947 of operating income for the first six months of the preceding year. The gross was approximately the same, being \$421,331, or little more than one-half of one per cent, less in 1922 than in 1921. The revenue from freight traffic was \$2,330,813, or 5.68%, larger in 1922, but there was a falling off of about the same amount in revenue from the operation of passenger trains. Notwithstanding the fact that approximately the same passenger train service had to be maintained for a substantially smaller volume of traffic, operating expenses in the first six months of 1922 were reduced \$7,538,785, or 13.51%, below the level for the same period of 1921, and of this reduction more than five millions were saved in conducting transportation, less than one-half of that amount being cut from the maintenance appropriations. The operating and transportation ratios in the first six months of 1922 were 77.87 and 39.39, respectively, compared with 89.43 and 47.14 in the preceding year. A surplus of \$2,003,737 of income remaining after the payment of fixed charges for the first six months of 1922 compared with a deficit of \$4,757,515 for the same period of 1921, an improvement of no less than \$6,761,252.

These results augured well for a prosperous year, but the realization has been deferred by the consequences of what must now be recognized to have been a futile, if well intentioned, effort by governmental regulating bodies to reduce the cost to the public of freight transportation. First the Interstate Commerce Commission directed that effective July 1, 1922, freight rates should be lowered ten per cent, below the level which obtained on August 26, 1920. Then the Railroad Labor Board decided that wages of certain employees should be reduced from the same date. A nation-wide strike of members of the several organizations of railroad shop crafts followed the application of that decision. The strike was a failure and is now history, but it may well have had the economic effect of postponing indefinitely any

TABLE 1.—INCOME STATEMENT.

	1921.	1920.
Operating Revenues:		
Freight	\$85,185,081.64	
Passenger	32,104,922.09	
Miscellaneous Passenger-Train	977,457.21	
Mail	3,373,069.76	
Express	2,649,455.14	
Other Transportation	1,258,256.26	
Incidental	2,292,062.57	
Joint Facility	874,845.34	
Total Operating Revenues	\$128,715,150.01	
Operating Expenses:		
Maintenance of Way and Structures	\$19,287,487.46	
Maintenance of Equipment	23,396,099.60	
Traffic	2,556,857.51	
Transportation	55,443,873.12	
Miscellaneous Operations	1,055,085.09	
General	4,096,996.90	
Transportation for Investment—Credit	7,392.72	
Total Operating Expenses	\$105,829,006.96	
Net Revenue from Operations	\$22,886,143.05	
Taxes	\$4,582,292.92	
Uncollectible Revenues	85,042.89	
Hire of Equipment	3,407,707.62	
Joint Facility Rents	839,317.71	
Total Other Expenses	\$8,914,361.14	
Operating Income	\$13,971,781.91	\$15,320,073.35
Non-Operating Income:		
Income from Lease of Road	\$207,279.84	\$32,405.98
Miscellaneous Rent Income	263,558.35	248,308.57
Income from Rail Leased	99,902.36	82,629.78
Dividend Income	2,112,894.73	1,268,692.48
Income from Funded Securities	888,535.41	904,361.02
Income from Unfunded Securities and Accounts	652,568.93	286,597.66
Miscellaneous Income	14,453.80	27,542.79
Total Non-Operating Income	\$4,239,193.42	\$2,850,538.28
Total Gross Income	\$18,210,975.33	\$18,170,611.63
Deductions from Total Gross Income:		
Rent for Leased Roads	\$2,586,420.94	\$2,827,172.41
Miscellaneous Rents	11,322.03	45,058.29
Separately Operated Properties	574,687.34	548,734.18
Interest on Unfunded Debt	663,725.49	492,405.61
Miscellaneous Income Charges	145,638.70	123,387.99
Total Deductions of This Class	\$3,981,794.50	\$4,036,756.48
Total Available Income	\$14,229,180.83	\$14,133,855.15
Interest on Funded Debt	\$11,061,795.31	\$11,144,830.00
Interest on Equipment Obligations	914,754.75	1,046,866.26
Dividend on Southern Railway—Mobile and Ohio Stock Trust Certificates	226,008.00	226,008.00
Total Deductions of This Class	\$12,202,558.06	\$12,417,704.26
Balance of Income Over Charges	\$2,026,622.77	\$1,716,148.89
Dividend of 2½% on Preferred Stock Paid December 31, 1920		\$1,500,000.00
Additions and Betterments Charged to Income		88,094.20
Miscellaneous Appropriations of Income	7,252.37	14,340.81
Balance Carried to Credit of Profit and Loss	\$2,019,370.40	\$113,713.88

TABLE 2.—PROFIT AND LOSS.

Credit Balance December 31, 1920		\$46,974,374.24
Add:		
Credit Balance of Income for the Year	\$2,019,370.40	
Credit Resulting from Settlement of Claim Against United States Government	17,949,785.34	
		19,969,155.74
Deduct:		
Property Retired	\$3,302,331.54	
Securities Written Down	4,577,196.00	
Accounts Written Off	1,610,383.94	
Discount on Securities	1,190,749.41	
Net Miscellaneous Debits	822,073.66	
		11,502,734.55
Credit Balance December 31, 1921		\$55,440,795.43

TABLE 3.—GENERAL BALANCE SHEET.

ASSETS.	December 31, 1921.	December 31, 1920.
Investments:		
Investment in Road	\$349,621,233.47	\$352,256,487.95
Investment in Equipment	90,183,524.90	89,344,507.44
Total Investment in Road and Equipment	\$439,804,758.37	\$441,600,995.39
Cash Deposited in Lieu of Mortgaged Property Sold	\$6,800.00	\$9,822.50
Miscellaneous Physical Property	\$989,206.59	\$918,982.98
Investments in Affiliated Companies:		
Stocks	\$35,224,658.76	\$35,329,105.90
Bonds	26,307,912.28	28,307,968.38
Notes	4,535,655.53	4,936,368.04
Advances	3,873,143.96	4,222,017.69
Total Investments in Affiliated Companies	\$69,941,370.53	\$72,795,460.01

further diminution of freight rates. Uncertainty will continue to obscure hope in these respects so long as one governmental agency fixes income and another fixes outgo without economic relation the one to the other. If governmental agencies are to continue to determine the destiny of the railroads in these vital respects there must be such co-ordination between those agencies as will relate their policies and at the same time establish their power to carry the whole purpose into effect. The time seems to have come for a single responsible regulating commission.

Despite these handicaps of lower freight rates and disorganization of labor, the results for the full year 1922 should be satisfactory, given during the remainder of the year the volume of traffic which now appears reasonably assured.

INDUSTRIAL AND AGRICULTURAL DEVELOPMENT IN THE TERRITORY SERVED.

Business in the South is again on the up-grade.

The output of the mills and factories has been steadily increasing during the last few months.

An outstanding feature has been the operations of the cotton mills, a happy contrast with the strike-ridden cotton manufacturing centers of the East. In July, 1922, according to figures compiled by the United States Census Bureau, 96.97 per cent. of the spindles in mills in the cotton producing states were active, while in other states the percentage of active spindles was only 78.53. During that month the average active spindle hours in the South was 250 compared with 145 in other states. In the twelve months ended July 31, 1922, the mills in the cotton producing states consumed 3,733,147 bales, which compares with a consumption of 2,178,767 bales by mills in the other states. The more favorable conditions for the cotton manufacturing industry in the South are reflected not only in operating statistics but also in the record of new mill construction. During the same twelve months, according to the Census Bureau reports, there was a net increase of 245,831 spindles in Southern mills and a net increase of only 79,627 spindles in mills in states outside of the South. A survey of new mills under construction or in prospect indicates a continuation of the tendency shown by these figures.

There has been unusual activity in the provision of new business and residential structures, as well as in the construction of improved highways.

The mineral exhibit by Southern Railway System at the National Exposition of Chemical Industries held annually in New York City has been productive of good results. It has afforded a convenient opportunity for those looking for new supplies of raw materials actually to see specimens of the materials available in the South and to learn the location, character and extent of the deposits. The latest exhibit in September, 1922, called forth a large number of interested inquiries which should result in the establishment of new enterprises, as well as the enlargement of existing operations, with resultant increases in the Company's traffic.

While the farmers of the South have not recovered from the fall in the prices of staple farm products which occurred in 1920, a large part of the indebtedness which they were compelled to incur in 1920 and 1921 has been discharged, thanks to the practice of economy and the diversification of farm operations.

The Southern farmer is making hopeful progress in his journey from dependence upon a single money crop, with its one pay-day per year at market time for cotton or tobacco, toward the independence to be obtained

Other Investments:

Stocks	\$94,008.00	\$94,007.00
Bonds	2,658,913.45	5,158,913.45
Notes	421,460.24	418,680.17
Total Other Investments.....	\$3,174,381.69	\$5,671,600.62
Total Investments.....	\$513,916,517.18	\$520,996,861.50

Current Assets:

Cash	\$8,097,605.58	\$7,969,141.67
Special Deposits.....	8,475,700.50	3,062,487.10
Loans and Bills Receivable.....	867,662.92	532,810.19
Traffic and Car Service Balances Receivable.....	2,720,022.19	2,522,554.16
Balances due from Agents and Conductors.....	312,615.45	1,250,792.01
Miscellaneous Accounts Receivable.....	7,066,758.98	11,023,190.39
Material and Supplies (Table 2).....	13,473,154.76	17,635,896.18
Interest and Dividends Receivable.....	1,277,280.99	768,220.39
Other Current Assets.....	540,526.22	1,788,645.36
Total Current Assets.....	\$42,771,327.59	\$46,553,737.45

Deferred Assets:

Working Fund Advances.....	\$48,836.78	\$40,547.06
Cash and Securities in Insurance Fund.....	1,246,037.33	1,252,975.32
Cash Deposited Under North Carolina Railroad Lease.....	175,000.00	175,000.00
Other Deferred Assets.....	86,383.33	442,910.46
Total Deferred Assets.....	\$1,556,257.44	\$1,911,432.84

Unadjusted Debits:

Insurance Premiums and Rents Paid in Advance....	\$18,228.58	\$67,189.23
Additions and Betterments Expenditures: Freight Claims: Foreign Mileage and Sundry Items in Suspense	3,329,108.22	4,755,661.91
Total Unadjusted Debits.....	\$3,347,336.80	\$4,822,851.14

Claim Against United States Government.....

Securities of the Company held by it:	1921.	1920.
Unpledged	\$25,569,200.00	\$7,452,200.00
Pledged	48,014,000.00	58,495,000.00
Totals	\$73,583,200.00	\$65,947,200.00
Grand Totals.....	\$561,591,439.01	\$609,427,370.53

Table 3.—GENERAL BALANCE SHEET.

LIABILITIES.

	December 31, 1921.	December 31, 1920.
Capital Stock:		
Common	\$120,000,000.00	\$120,000,000.00
Preferred	60,000,000.00	60,000,000.00
Total Southern Railway Company Stock.....	\$180,000,000.00	\$180,000,000.00
Southern Ry.-Mobile & Ohio Stock Trust Certificates	\$5,650,200.00	\$5,650,200.00
Long Term Debt:		
Funded Debt (Table 4).....	\$237,318,500.00	\$234,212,500.00
Equipment Trust Obligations (Table 5).....	15,773,800.00	18,721,000.00
Total Long Term Debt.....	\$253,092,300.00	\$252,933,500.00
Total Capital Liabilities.....	\$438,742,500.00	\$438,583,700.00
Governmental Grants:		
Grants Since July 1, 1914, in Aid of Construction..	\$84,078.58	\$84,078.58
Current Liabilities:		
Loans and Bills Payable.....	\$5,954,270.00	\$7,880,270.00
Traffic and Car Service Balances Payable.....	2,023,634.11	3,963,909.37
Audited Accounts and Wages Payable.....	14,592,011.25	21,126,810.15
Miscellaneous Accounts Payable.....	2,399,027.75	2,975,592.00
Interest Matured, Including Interest Due January 1st	2,925,320.70	2,898,169.30
Dividends Matured Unpaid.....	820.00	2,200.00
Funded Debt Matured Unpaid.....	32,589.80	161,727.80
Unmatured Dividends Accrued.....	56,502.00	56,502.00
Unmatured Interest Accrued.....	1,824,735.32	1,930,730.60
Unmatured Rents Accrued.....	320,804.96	356,108.55
Expenses Accrued not Vouchered.....	1,490,511.86	1,420,563.03
Other Current Liabilities.....	1,089,735.58	1,854,530.99
Total Current Liabilities.....	\$32,709,963.33	\$44,627,113.79
Deferred Liabilities:		
Sundry Deferred Liabilities.....	\$1,291,545.53	\$1,624,081.29
Unadjusted Credits:		
Taxes	\$1,251,395.94	\$675,180.43
Insurance Reserve.....	1,246,037.33	1,252,975.32
Operating Reserves.....	1,304,255.11	2,762,394.84
Depreciation Accrued on:		
Rail Leased to Other Companies.....	131,268.41	139,899.47
Equipment Owned.....	24,674,114.84	22,508,413.47
Equipment Leased from Other Companies.....	630,662.48	563,122.71
Sundry Items.....	2,308,488.66	3,985,425.90
Total Unadjusted Credits.....	\$31,546,222.77	\$31,887,412.14
Corporate Surplus:		
Additions to Property, Since June 30, 1907, through		
Income and Surplus.....	\$1,754,740.19	\$1,661,187.48
Miscellaneous	21,593.18	14,340.81
Total Appropriated Surplus.....	\$1,776,333.37	\$1,675,528.29
Profit and Loss—Balance.....	\$55,440,795.43	\$46,974,374.24
Unadjusted Items (Net) Subject to Settlement of Claim With United States Government.....		\$43,971,082.20
Grand Totals.....	\$561,591,439.01	\$609,427,370.53

by the operation of his farm to yield cash returns throughout the year from the sale of truck crops, cattle, hogs, poultry and dairy products. One proof of this progress is found in a report by the United States Bureau of Markets that from January 1, 1922, to August 19, 1922, there were shipped from the states of North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana and Tennessee 107,298 carloads of cabbage, cantaloupes, lettuce, onions, strawberries, sweet potatoes, tomatoes, watermelons, Irish potatoes, peaches and mixed vegetables, compared with 83,629 carloads for the same period of last year, an increase of 23,669 carloads or 28.30 per cent., and this showing was made in spite of the fact that there was a substantial decrease in production of watermelons and peaches because of unfavorable weather conditions. Other bits of evidence of the same character are the establishment of twenty-six new creameries in the territory served by Southern Railway System, a large increase in the production of butter, the raising in south Georgia of milk fed poultry along the lines for many years profitably practiced in east Tennessee, the placing on farms throughout the territory of more pure bred poultry than in any previous year, and the growing of high grade tobacco in South Carolina and Georgia.

The higher price for cotton accompanying last year's small crop led to larger plantings this year throughout the entire cotton belt. Adverse weather conditions and boll weevil ravages have cut down the yield in some localities, but latest condition reports appear to indicate that this year's crop will be larger than last. Production costs have been relatively low and the crop should be sold at profitable prices.

The movement of farm settlers into the South, comparatively light for several years past, shows signs of increasing. Sound and

conservative colonization projects are being launched in several localities served by Southern Railway System. Lands will be prepared for farming and offered on terms which should attract a desirable class of farmers from parts of the United States where land prices, measured by productive value, relatively are much higher than in the South.

It is fair to say that the farmers of the South now are in a more cheerful state of mind than they have been at any time for the past two years.

IMPROVEMENTS AND BETTERMENTS IN THE CAPITAL ACCOUNT.

No additions of importance were made to the property during the year 1921, but in May last arrangements were made to acquire 6445 box cars, 100 passenger-train cars and 250 caboose cars. The cost of this equipment is \$11,736,000, and the money was provided partly from current treasury funds and the remainder from the sale of \$9,300,000 Series "W" 5½% equipment trust certificates dated May 15, 1922, payable in thirty equal semi-annual installments. The substantial addition to the freight car supply thus provided should go far toward remedying the hire of equipment balances against the Company which have been conspicuous in recent income statements.

A start has been made in relaying with 100 lb. rail the existing 85 lb. rail in the heavy traffic main lines.

FINANCING CAPITAL REQUIREMENTS.

Confronted with the necessity of enlarging its facilities to handle a growing traffic, and unable to obtain a satisfactory price for four per cent. bonds secured by the Development and General Mortgage, the Company has for many years past been forced to resort to short term note issues to provide money for essential additions and improvements. The latest issue of \$25,000,000 of such notes, made in 1919 to refund a previous issue,

matured on March 1, 1922, and presented again the constantly recurring financial problem. A solution was found in the sale of thirty million dollars of bonds issued under the Development and General Mortgage carrying coupons calling for the payment of interest at the rate of six and one-half per cent. per annum. While only four per cent. of this annual interest rate could be secured by the mortgage, because of an express limitation in that respect, the remaining two and one-half per cent. interest is represented by the Company's unconditional promise to pay and is further protected by a covenant to secure such payment in any new mortgage which hereafter may be placed upon the railways subject to the Development and General Mortgage. An immediate and wide distribution of these new bonds was convincing evidence of hearty approval of the issue by the investment community. From the proceeds of this financing the short term notes were paid off, as also was a loan owed to the War Finance Corporation.

RELATIONS WITH EMPLOYEES.

To all officers and employees who have faithfully and efficiently performed their duties the thanks of the Board of Directors again are tendered. Especially does the Board desire to record its appreciation and admiration of the service rendered by those loyal and courageous officers and employees who operated the railroad during the strike.

The Directors, with deep regret, record the death on August 11, 1922, of their esteemed associate Bishop John Carlisle Kilgo.

Respectfully submitted, by order of the Board,

FAIRFAX HARRISON,
President.

Time to Build Strong

It has come to be understood by most manufacturers and distributors that a large volume of business at any period of time is of itself no proof that the business is built on a sure foundation. The volume may be due to a variety of conditions, and those conditions may be temporary, and may be entirely out of the control of those who enjoy them.

The only sure foundation upon which a big business can be successfully built is an undisputed consumer preference. Let that be present and it matters not how quickly a business grows, or how big it grows, you have the assurance that it is solidly built and that it will not topple over when the first wind blows.

Advertising is the corner stone of the structure of consumer preference. No conspicuous example exists where there is a steady and sure consumer demand for any product that is not properly advertised. Every instance that can be cited of a consumer demand that is strong enough to

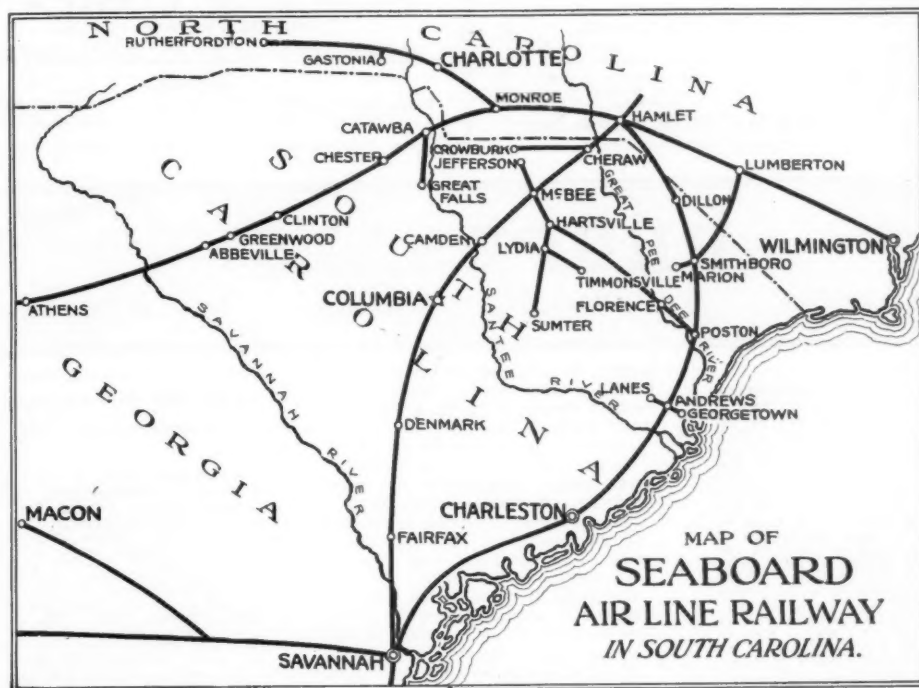
offset changing market conditions may also be cited as an example of the effective use of advertising.

The present business condition is a challenge to every business that is built on the uncertain foundation of a demand due to a favorable state of the market. Assuming that the strong demand of the past few years, prior to 1920, was a permanent thing, many manufacturers made provisions to supply the demand and reap a harvest of profits; but they overlooked the importance of insuring their share of the demand.

Now the great lesson has been learned—at a prodigious cost. The disposition today is to build strong, to make sure of the foundations before rearing a great superstructure. In the long run it will mean that all business will be on a more solid basis, and less likely to be upset by changing conditions. This will be the great compensation for the stress of the present period.

[Published by the MANUFACTURERS RECORD in co-operation
with The American Association of Advertising Agencies]

South Carolina's Industrial Growth Offers Sound Basis for Future Expansion



South Carolina—from the mountain tops of the Appalachians on its northwestern border—over the Blue Ridge—across the rolling Piedmont Plateau—onto the broad Coastal Plain—thence to its ports on the Atlantic Ocean—is a state of remarkable activities and undeveloped possibilities.

Streams are being harnessed to a continually increasing extent to provide hydro-electric power to turn the wheels of industry. For over one hundred years South Carolina textile mills have manufactured cotton—today there are over 5,000,000 spindles, and nearly 115,000 looms representing about 1/6 of the spindles and looms of the entire country. In addition, there are numerous knitting mills as well as bleacheries and dye works.

Its fertilizer industry, in the forefront of all states,

stimulates the annual production of \$450,000,000 worth of farm crops.

Capital invested in manufactures totals \$375,000,000—the products manufactured aggregate around \$400,000,000 annually.

There are inexhaustible supplies of stone, granite and clay. Lumber and naval stores play an important part in the industrial activities of the State. Adequate home-grown labor—raw materials and hydro-electric power are alike available.

The Seaboard Air Line Railway crosses and re-crosses South Carolina in several directions. All along the line there are abundant opportunities for the establishment of profitable industries, or prosperous farming enterprises.

Full co-operation will be extended those seeking further specific information about the opportunities in South Carolina as well as in other States traversed by this railroad.

JESSE M. JONES, General Development Agent

SEABOARD AIR LINE RAILWAY
Room 734 Royster Building NORFOLK, VA.

TODD & McCOLLOUGH

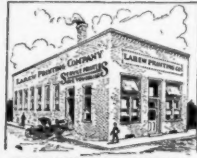
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OFFICES:

Suite 1208 GARRETT BUILDING -
 6 HAMILTON ROWBALTIMORE, MD.
 HAGERSTOWN, MD.**PROPOSALS****BOND ISSUES****BUILDINGS****PAVING****GOOD ROADS**

Bids close Oct. 24, 1922.

DEPARTMENT OF THE INTERIOR, Washington, D. C., September 30, 1922.
 Sealed proposals in duplicate will be received at the Department until two o'clock P. M., Tuesday, October 24, 1922, for the erection and completion of laboratory and isolation buildings at St. Elizabeths Hospital, Washington, D. C., in accordance with the drawings and specifications for the work, copies of which, with form of proposal, may be had upon application to the Department. A certified check in the sum of Twenty-Five (\$25.00) Dollars, payable to the order of the Secretary of the Interior, will be required as a guarantee for the safe return of each set of plans.

The right is reserved to reject any and all bids, waive technical defects, and to accept one part and reject the other as the interests of the Government may require. Proposals must be securely enveloped, marked "Proposal for erection of laboratory and isolation buildings at Saint Elizabeths Hospital," and be addressed to the Secretary of the Interior, Washington, D. C. F. M. GOODWIN, Assistant Secy.

Bids close October 30, 1922.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., October 2, 1922.—**SEALED PROPOSALS** will be opened in this office at 3 P. M., October 30, 1922, for Alterations, Etc., to the United States Post Office, Court House, and Custom House, at Richmond, Va., including Alterations to adjoining buildings and approaches. Drawings and specifications may be obtained from the Custodian at Richmond, Va., or at this office in the discretion of the Supervising Architect. Jas. A. Wetmore, Acting Supervising Architect.

Bids close October 17, 1922.

Bids close November 2, 1922.

PROPOSALS FOR steel rivets, bolts, nails, automobiles, section cars, mowing machines, canoes, tiller rope, brass sheets and tubing, copper tubing, boiler tubes, pig tin, valves, storage batteries, glass, tires and tubes, packing, bathroom mats, celluloid, paint brushes, galvanized buckets, silver-plated knives, pens, blank books, stencil paper, toilet paper, soap, quicklime, and alumina sulphate. Sealed proposals will be received at the Office of the General Purchasing Officer, The Panama Canal, Washington, D. C., until 10.30 o'clock a. m., November 2, 1922, at which time they will be opened in public, for furnishing the above-mentioned articles. Blanks and information relating to this Circular (1499) may be obtained from this office or the offices of the Assistant Purchasing Agents, 24 State Street, New York City; 611 Gravier Street, New Orleans, La.; and Fort Mason, San Francisco, Calif.; also from the United States Engineer Offices in the principal cities throughout the United States.—A. L. FLINT, General Purchasing Officer.

RATE: 35 cents per line per insertion.**PUBLICATION DAY:** Thursday.**FORMS CLOSE** 4 P. M., Monday.

DAY LETTER: When too late to send copy by mail to reach us by 4 P. M. Monday, forward by day letter.

THE DAILY BULLETIN OF THE MANUFACTURERS RECORD:

Published every business day; gives information about the industrial, commercial and financial activities of the South and Southwest.

The Daily Bulletin can be used to advantage when copy cannot reach us in time for publication in the Manufacturers Record before bids are to be opened, or when daily publications are necessary to meet legal requirements.

The same rate applies—35 cents per line per insertion.

Bids close October 31, 1922.

TREASURY DEPARTMENT, Supervising Architect's Office, Washington, D. C., October 5, 1922.—**SEALED PROPOSALS** will be opened in this office at 3 p. m., October 31, 1922, for counters in room 423 and laboratory in the United States Treasury Building, Washington, D. C. Drawings and specification may be obtained at this office. Jas. A. Wetmore, Acting Supervising Architect.

Bids close November 3, 1922.

\$100,000 5 1/2% Road and Highway Bonds

POLK COUNTY, GEORGIA

Cedartown, Ga.

Sealed bids will be received by T. W. Schliestett, Clerk, Cedartown, Ga., until noon, Friday, November 3, 1922, for \$100,000 5 1/2% coupon bonds dated January 1, 1923 maturing January 1, 1943, denomination \$1000; semi-annual interest payable January and July. Certified check for 2% must accompany each bid. County reserves right to take seven bonds to invest sinking fund. Principal and interest payable in gold at National Bank of Commerce, New York City. Legal opinion of Caldwell & Raymond, New York City, approving validity of issue will be furnished purchaser. For further information apply to

JOHN K. DAVIS, Chairman,
 Cedartown, Ga.**FINANCIAL STATEMENT**

Assessed valuation of taxable property, 1921..... \$9,330,678
 Total bonded indebtedness, exclusive of this issue..... 197,000
 Population of County, 1920 census 20,357
 Bonds will be delivered January 3, 1923, at Cedartown, Ga., or at National Bank of Commerce of New York, as preferred.

Bids close November 7, 1922.

\$1,500,000 5% Highway Bonds**HILLSBOROUGH COUNTY, FLORIDA**

Tampa, Fla.

Sealed bids will be received by the Board of County Commissioners, in care of the undersigned, in Tampa, Fla., until 10 o'clock A. M., November 7, 1922, for \$1,500,000 Highway Bonds maturing annually, July 1st, \$25,000 1924 to 1928, \$30,000 1929 and 1930, \$35,000 1931 and 1932, \$40,000 1933 to 1935, \$45,000 1936 and 1937, \$50,000 1938, \$55,000 1939 to 1941, \$60,000 1942 and 1943, \$65,000 1944 and 1945, \$70,000 1946, \$75,000 1947 and 1948, \$80,000 1949, \$85,000 1950, \$90,000 1951 and \$95,000 1952, all inclusive, without option of prior payment.

All bonds dated July 1st, 1922; denomination \$1000; principal and semi-annual interest (5% J. and J. 1), payable in New York City in gold; coupon bonds with privilege of registration as to principal only.

The bonds are to be prepared under the supervision of the United States Mortgage & Trust Company, New York City, which will certify as to the genuineness of the signatures of the County officials and the seal impressed thereon. Legality will be approved by Chester B. Masslich, Esq., New York City, whose approving opinion will be furnished to the purchaser without charge. The bonds are general obligations of the County, payable from an unlimited tax. Authorized by vote of electors.

Bids are required on blank forms, which will be furnished by the undersigned or said Trust Company, with additional information concerning the County, conditions of bidding and security required. Delivery at place of purchaser's choice about November 21st, 1922. The right to reject any or all bids is reserved. The bonds will not be sold at less than par.

W. R. WATKINS, Clerk of
 Board of County Commissioners.

Bids close October 26, 1922.

Sewer and Water System

Gibsonville, N. C.

Sealed proposals will be received until eleven o'clock A. M. on the 26th day of October, for the furnishing of materials and the work of constructing a complete sewer and water system for the town of Gibsonville, N. C.

Bids will be received on all the materials and equipment required with the exception of the pumping equipment, which will be purchased later.

A certified check to the amount of 5% of the bid will be required and the right is reserved by the Town to reject any and all proposals.

The Carolina Engineering Company, Wilmington, N. C., are the engineers.

J. T. ALLEN, Town Clerk.

Bids close November 1, 1922.

TREASURY DEPARTMENT, Supervising Architect's Office, Washington, D. C., October 12, 1922.—SEALED PROPOSALS will be opened in this office at 3 p. m., November 1, 1922, for furnishing and installing lighting fixtures in the U. S. Veterans' Hospital at Oteen, N. C., in accordance with the drawing and specifications, copies of which may be had at this office in the discretion of the Supervising Architect. Jas. A. Wetmore, Acting Supervising Architect.

Bids close October 30, 1922.

Bridge

South Hill, Va.

Sealed proposals will be received at the office of N. G. Smith, Supervisor, South Hill, Va., until 12 o'clock, noon, Monday, October 30, 1922.

1. The construction of a concrete and steel bridge across Meherrin River at Union Mills, Mecklenburg County, Virginia, approximately 161 feet in length.

2. Alternate: At same location, concrete abutments and piers with I beam girders and wood floor.

3. Bids will also be received on the reconstruction of the old bridge at same site, which involves the rebuilding of foundation piers and the construction of the superstructure of wood.

Approximate distance from South Hill, six miles. Width of roadway 12 feet. Character of superstructure, item 1, reinforced concrete slabs. Item 2, I beam girders and wood flooring. Character of substructure, concrete.

Number of working days to complete, sixty.

A certified check for \$200 payable to the Chairman of the Board of Supervisors of Mecklenburg County, Virginia, must accompany each proposal.

Plans and specifications are on file at the office of the State Highway Commission, Richmond, Va., and at the office of N. G. Smith, Supervisor, South Hill, Va.

Blueprints of plans can be secured from the State Highway Commission, Richmond, Va., at a cost of \$5.00 per set.

The right is reserved to reject any or all bids.

A. O. BRACEY, Supervisor,
N. G. SMITH, Supervisor,
South Hill, Va.

Bids close October 27, 1922.

Street Improvements

Thomasville, N. C.

Sealed proposals will be received by the Mayor and Council of the City of Thomasville, North Carolina, at the office of the City Clerk until 3:30 P. M., October 27, 1922, for paving certain streets with brick, concrete or asphalt with all necessary curbing, gutters, storm drainage and sidewalks. The work includes approximately:

- 10,630 Cubic yards common excavation.
- 15,890 Lineal feet concrete curb and gutter.
- 2,961 Lineal feet granite curb to be re-set.
- 369 Lineal feet concrete header.
- 21,477 Square yards pavement.
- 4,263 Square yards sidewalk.
- 927 Lineal feet 12" T. C. Storm drains.
- 1,850 Lineal feet 15" T. C. Storm drains.
- 25 Lineal feet 18" T. C. Storm drains.
- 100 Lineal feet 24" T. C. Storm drains.
- 5 12x12 Y's.
- 1 18x12 Y's.
- 1 24x12 Y's.
- 10 Manholes complete.
- 20 Drop inlets.
- 15 End inlets.
- 1 24"—¾ bend.

Each bidder must accompany bid with a certified check or bidders' bond satisfactory of the Mayor and Council for five (5%) per cent of the amount bid in favor of T. E. Jennings, Mayor, Thomasville, N. C.

Plans and specifications may be seen at the office of the Clerk, or at office of the Engineers in Atlanta, Ga.

Copies of plans and specifications may be obtained from Engineers upon receipt of \$10.00, which will be returned to bona fide bidders on return of plans and specifications.

CITY OF THOMASVILLE, N. C.

By T. E. JENNINGS, Mayor,

By B. H. HARRIS, Clerk.

J. B. McCRARY ENGINEERING CORP.,
Engineers.

Bids close October 31, 1922.

State Highway Construction

STATE OF MARYLAND
STATE ROADS COMMISSION

Baltimore, Md.

SEALED PROPOSALS for building Eight sections of State Highway, as follows:

GARRETT COUNTY—Contract G-24—One section of state highway from Luke to Bloomington, a distance of 0.5 miles. (Penetration Macadam.)

ALLEGANY COUNTY—Contract A-22—One section of state highway along the Williams Road for a distance of 1.6 miles. (Concrete.)

HOWARD COUNTY—Contract HO-26—One section of state highway along the Old Frederick Road from end of St. Johns Lane to the Woodstock Road, a distance of 2.56 miles. (Concrete.)

MONTGOMERY COUNTY—Contract M-39—One section of state highway through Laytonsville, for a distance of 1.0 miles. (Concrete.)

MONTGOMERY COUNTY—Contract M-38—One section of state highway from Dawsonville toward Beallsville, for a distance of 1.0 miles. (Concrete.)

MONTGOMERY COUNTY—Contract M-37—One section of state highway from Dawsonville toward Seneca, for a distance of 1.0 miles. (Concrete.)

MONTGOMERY COUNTY—Contract M-40—One section of state highway from Seeks Corner to the Prince George's County Line, for a distance of 0.7 miles. (Concrete.)

ANNE ARUNDEL COUNTY—Cont. AA-26—One section of state highway from Tracey's Corner toward Nutwell, a distance of 1.0 miles. (Gravel.)

will be received by the State Roads Commission, at its offices, 601 Garrett Building, Baltimore, Md., until 12 M., on the 31st day of October, 1922, at which time and place they will be publicly opened and read.

Bids must be made upon the blank proposal form which, with specifications and plans will be furnished by the Commission upon application and cash payment of \$1.00, as hereafter no charges will be permitted.

No bids will be received unless accompanied by a certified check for the sum of Five Hundred (\$500) Dollars, payable to the State Roads Commission.

The successful bidder will be required to give bond, and comply with the Acts of the General Assembly of Maryland, respecting contracts.

The Commission reserves the right to reject any and all bids.

BY ORDER of the State Roads Commission this 11th day of October, 1922.

L. H. STEUART, JOHN N. MACKALL,
Secretary. Chairman.

Bids close October 31, 1922.

Water Works and Sewerage Systems

Winnsboro, La.

Sealed proposals will be received by the Mayor and Board of Aldermen of the Town of Winnsboro, La., on or before 7:30 P. M., Tuesday, the 31st day of October, 1922, and be publicly opened, for furnishing materials, machinery and equipment and constructing a Water Works and Sewerage System for the said Town in accordance with plans and specifications on file in the office of the Secretary of the Town of Winnsboro.

The Water Works includes furnishing oil engines, pumps, steel tower and tank, fire hydrants, valves and boxes, water pipe and pump houses, reservoir and deep well. The Sewerage Works includes furnishing vitrified sewer pipe and branches, line structures and disposal plant.

Each proposal must be accompanied by a certified check for three (3%) per cent of the amount of the bid, made payable to the Hon. W. H. Adams, Mayor, Winnsboro, La., as evidence of good faith.

Specifications, form of proposal, contract and plans may be seen at the office of the Mayor of Winnsboro, La., or will be mailed upon application to the engineers, The Kramer Engineering Company, Magnolia, Miss., upon a deposit of \$15.00 to insure their safe return.

The Board reserves the right to reject any and all bids, or to waive formalities, and to make any award which in their opinion is to the best interest of the Town of Winnsboro.

W. H. ADAMS, Mayor.

A. W. BROWN, Secretary.

KRAMER ENGINEERING COMPANY,
Consulting Engineers,
Magnolia, Miss.

Bids close October 25, 1922.

Concrete or Steel Bridges

Spruce Pine, N. C.

The Board of Road Commissioners of Mitchell County, N. C., and the Board of County Commissioners of Yancey County, N. C., jointly advertise for bids for the construction of either concrete or steel bridges, at Hundsale, N. C., and at Boonford, N. C., on C. C. & O. R. R., the type of bridge to be determined by said Boards after bids received, the bids to be opened at Spruce Pine, N. C., on the 25th day of October, 1922, at 4:00 P. M.

Plans for steel bridges must be submitted by bidding contractor. Plans for concrete bridges will be on file with W. F. Deneen, C. E., Bakersville, N. C., on and after October 16, 1922.

All bids to be signed and sealed and accompanied by certified check of corporate bond of five per cent of price of bid, checks payable to M. A. Anderson, Chairman, Bakersville, N. C.

Boards reserve right to reject all bids.
BOARD OF ROAD COMMISSIONERS
OF MITCHELL COUNTY AND
BOARD OF COUNTY COMMISSIONERS
OF YANCEY COUNTY.

Bids close November 9, 1922.

Water Works and Electric Light Systems

Utica, Miss.

Sealed proposals will be received by the Mayor and Board of Aldermen of the Town of Utica, Miss., at their regular meeting place until 11 o'clock A. M., November 9, 1922, for the following:

One Oil Engine, directly connected to Alternator, one belted Alternator, Switchboard, Pumps, Pole line material, 12,000 Gallon Oil Storage Tank, Concrete Foundations, Repairs to building, etc.

Proposals must be marked, "Proposals for Light and Water Works Improvements." All bids must be upon blank forms provided in the specifications.

Each bid must be accompanied by a certified check (bidder's bond not acceptable) for five (5%) per cent of the amount bid, but not less than fifty (\$50.00) dollars, as evidences of good faith.

Plans and specifications will be on file at the office of the Town Clerk, Utica, Miss., and at the office of the Engineers in New Orleans, La., copies of the specifications, form of proposal, etc., may be obtained from the Engineers, Swanson-McGraw, Inc., New Orleans, La., by depositing five (\$5.00) dollars, which amount will be refunded to bona fide bidders, or if specifications are returned to the Engineers before the date of letting.

The right is reserved to reject any or all bids.

R. F. COOK, Mayor,
R. Y. CURRIE, Clerk.
SWANSON-McGRAW, INC.,
Engineers,
705 United Fruit Building,
New Orleans, La.

Bids close November 2, 1922.

Water Works Improvements

Laurens, S. C.

Sealed proposals will be received by the Commissioners of Public Works of the City of Laurens, S. C., until 12 o'clock noon on Thursday, the 2nd day of November, 1922, for Water Works Improvements.

The work will embrace a Mechanical Filtration Plant of reinforced concrete having a capacity of 1,000,000 gallons per day, together with the necessary piping, valves, etc.; Reinforced Clear Water Basin of 525 gallons capacity; Raw Water Station and Intake; furnishing and laying approximately one hundred tons of B. & S. Cast Iron Pipe; furnishing and installing two 1250 gallon per minute motor driven Centrifugal Service Pumps, and two 750 gallon per minute Raw Water Pumps.

Plans and specifications are on file with the City Clerk at Laurens, S. C., and with the Engineer at Durham, N. C., and blank form of proposal, specifications, etc., may be obtained from the Engineer.

Those desiring a set of plans can obtain same upon payment of \$7.50, which will be returned to those making bona fide bids and returning the plans.

Certified check for five (5%) per cent of the amount bid for such items for which a proposal is made must accompany all proposals.

The right is reserved to reject any or all bids.

W. R. McCUEN, Chairman,
STANLEY W. CREWS, City Clerk,
WILLIAM M. PIATT,
Engineer:
Durham, N. C.

Bids close November 6, 1922.

Road Improvements

Palatka, Fla.

The County Commissioners of Putnam County, Florida, will receive bids until 2 p. m., November 6, 1922, for grading and surfacing road 22 miles long with clay and sand-clay; for constructing 575 lin. ft. of vitrified clay culverts, and 257 lin. ft. of wooden bridges. Approximately 54,000 cu. yds. of grading, 12,820 cu. yds. of sand-clay surfacing, and 10,160 cu. yds. of clay surfacing.

Bidders may bid on whole work or on any one of three divisions.

Copy of plans and specifications \$2.50.

R. J. HANCOCK, Clerk.

Bids close November 17, 1922.

160 Miles of Road Construction

Tampa, Fla., October 13, 1922.

Sealed proposals will be received by the Board of County Commissioners of Hillsborough County, Florida, until 11:00 A. M., on November 17, 1922, for the construction of approximately one hundred and sixty (160) miles of nine (9) and fifteen (15) foot roads, to be paved with either brick, asphalt block, sheet asphalt, asphaltic concrete, cement concrete or bituminous macadam, as set forth in the specifications.

Specifications may be obtained on application from the Clerk of the Circuit Court of Hillsborough County, at Tampa, Florida. A deposit of Five (\$5.00) Dollars will be required for specifications.

A certified check or bidder's bond executed by a reputable bonding company authorized to do business in the State of Florida, in the sum of Five (5%) per cent of the bid must be attached up to a bid of Five Hundred Thousand (\$500,000) Dollars. Any contractor bidding on more than amount of work up to and including the total project may make a check or bidder's bond for only Twenty Five Thousand (\$25,000) Dollars, payable to Charles T. Friend, Chairman of the Board of County Commissioners. A bond must be submitted with each proposal.

Bidders may submit proposals on each road separately or on the combined project as a whole, it being understood, however, that the Board reserves the right to award this work as they deem best, either separately or as a whole.

The right is reserved to select the type of curbing and paving for each road and to reject any or all bids.

Bids will also be received for road building materials; such materials to conform to the requirements as set forth in the construction specifications. A certified check or bidder's bond must accompany each proposal for materials, payable to Charles T. Friend, Chairman of the Board of County Commissioners, for the sum of One Thousand (\$1000) Dollars. The right is reserved to reject any and all bids. Address all bids to C. T. Friend, Chairman, Board of County Commissioners, Tampa, Fla.

CHARLES T. FRIEND,

Chairman, Board of County Commrs.

Bids close November 2, 1922.

Sewer Tunnel

Tulsa, Okla.

Sealed proposals will be received by the Board of Commissioners of the City of Tulsa, Okla., until five o'clock P. M., November 2, 1922, for the construction of a Storm Sewer 5700 feet long, 5100 feet of which will be in tunnel cut. Approximate size 14½x15½ feet. Bond issue \$900,000.00. Estimates payable in cash. Certified bidding check five per cent.

Plans and profiles, etc., may be secured from City Engineer, upon deposit of \$25.00, which will be refunded to all parties submitting a bona fide bid.

CHARLES SCHULTZ,

City Engineer.

W. W. HORNER,
Consulting Engineer,
St. Louis, Mo.

Bids close October 23, 1922.

Sewer Pipe

Sanford, Fla.

Sealed proposals will be received by the City Commission of Sanford, Fla., at their office in the City Hall on or before 8 P. M., October 23, 1922, for the following materials:

Approximately 22,235 ft. 6, 8, 10, 12, 15, 18, 21 and 24-in. No. 1 sewer pipe.

Approximately 737 ft. 39-in. circular sewer.

Approximately 915 ft. 36-in. circular sewer.

Approximately 740 branches, 8, 10, 12, 15, 18 and 21 in. diameter pipe.

The pipe to be delivered at Sanford, Fla., as ordered by the City during the six months following acceptance of bid.

Specifications and form of proposal can be secured at the office of City Manager.

The City Commissioners reserve the right to reject any or all bids, or to accept any or all bids, or to accept any bids they deem to be for the best interests of the City.

C. J. RYAN, City Manager.

Bids close November 7, 1922.

Sewage Disposal

Miami, Fla.

Sealed proposals will be received by the Commission of the City of Miami, Fla., at their regular meeting, November 7th, 1922, until 9 a. m., for furnishing:

1—Motor driven sewage screen, including motors and necessary equipment; capacity 2100 gallons per minute.

2—Motor driven centrifugal pumps, including motors and necessary equipment; capacity 2100 gallons per minute, against total head of 30 feet.

2400 feet 16-inch, Class B Cast Iron Pipe.

Each proposal must be accompanied by a certified check for 2½ per cent of the amount of the bid, or by bidder's bond, to insure the execution of the contract as provided by Section 56 of the City Charter.

The Commission of the City of Miami reserves the right to reject any or all bids.

Detailed specifications and bidders' blank form can be obtained from Chas. W. Murray, Director of Public Service, upon deposit of \$10.00, this deposit to be returned to those submitting a bona fide bid.

F. H. WHARTON, City Manager.

Bids close October 23, 1922.

Sewers

Sanford, Fla.

Sealed proposals will be received by the City Commission of Sanford, Fla., at their office in the City Hall, on or before 8 P. M., October 23, 1922, for the construction of the following sewers:

Approximately 22,000 ft. of 6 to 24-in. sewer.

Approximately 735 ft. of 39-in. circular sewer.

Approximately 900 ft. of 36-in. circular sewer.

Approximately 750 branches of 8 to 21-in. diameter pipe.

Sewer pipe and segment block to be furnished by City, F. O. B. cars, Sanford, Fla. Proposals to be presented in sealed envelope, endorsed on outside, "Bid for Sewer Construction," Sanford, Fla., with the name of bidder or bidders.

Each proposal must be accompanied by a certified check made payable at sight to the City of Sanford, Fla., for 5% of their bid.

Copies of plans and specifications may be seen at the office of the City Manager, or at the office of Fred T. Williams, Engineer. Plans and specifications can be secured from Fred T. Williams on deposit of \$10.00, which will be returned if bid is made.

Proposals will be received on a part or the whole of the work.

The City Commission reserves the right to reject any or all bids, or to accept any bid they deem to be for the best interest of the City.

C. J. RYAN, City Manager.

Bids close November 6, 1922.

Drainage District Improvements

Victoria, Tex., October 6, 1922.

Sealed proposals, addressed to O. M. Grier, Chairman of Commission, Drainage District No. 4, Victoria County, Texas, care of Miss Kate LaPrade, Courthouse, Victoria, Texas, will be received until 2 o'clock p. m., on November 6, 1922, for the construction of drainage improvements, excavations and accessory structures, involving about 220,000 cu. yds. of dry land open ditch excavations, 382 lin. ft. of light wood bridges, etc., etc.

The work is situated between the town of Guadalupe on the Victoria-Port Lavaca branch of the G. H. & S. A. R. R., and the Station of Darnel on the Victoria-Port O'Connor branch of the S. L. R. & M. R. R.

Detailed plans and specifications of the work may be seen for examination and information may be obtained at the office of J. G. Johnston, District Engineer, at Courthouse, Victoria, Texas.

The right is reserved by the Commission to reject any and all proposals or to waive all technicalities.

All bids received will be retained by the Commission and not returned to the bidders.

Proposals shall be submitted in sealed envelopes and marked, "BIDS FOR THE CONSTRUCTION OF DRAINAGE IMPROVEMENTS FOR DRAINAGE DISTRICT NO. 4, VICTORIA COUNTY, TEXAS, by

Contractor.

(Signed) J. G. Johnston,
District Engineer.

**MINERAL AND TIMBER LANDS WATER POWERS, MISCELLANEOUS PROPERTIES****COAL LANDS AND MINES****FOR SALE**

Going coal mine, Coal, oil and gas lands.
C. A. Croft, Box No. 3, Madison, W. Va.

5000 acres bituminous coal, four miles from railroad Texas, 3 feet surface cropping, drilling in district shows 25 feet of coal; a bargain. G. Denton, owner, Kampmann Building, San Antonio, Tex.

25,000 acres high-grade bituminous coal, two veins, Kentucky, 200,000,000 tons; also 42,000,000 tons cannel, all above tiple height; titles perfect. Best bargain on market. Box 441, Wilmington, Del.

RATES AND CONDITIONS

Rate 30 cents per line per insertion. Minimum space accepted, four lines. In estimating the cost allow seven words of ordinary length to a line. When the advertisement contains a number of long words, proper allowance should be made. Terms: Invariably cash with order: check, postoffice or express order or stamps accepted. No display type used. Questionable or undesirable advertisements will not be accepted. The assistance of our readers in excluding undesirable advertisements is requested. We reserve the right to refuse any advertisement. No patent medicine, oil or mining stock advertisements accepted. Rate for special contracts covering space used as desired within one year as follows: 100 lines, 25c. per line; 300 lines, 26c. per line; 500 lines or more, 25c. per line.

TIMBER LAND

6800 acres near Charleston, S. C. 35,000,000 feet extra fine pine timber. Best grade, 10,000,000 feet hardwood, principally cypress. Will cut 1,000,000 cross-ties high-grade. Near market. Logging conditions excellent. Good quality land and healthy location. Splendid buy for mill-man. Extra bargain as investment. J. R. Barbour, Benson, N. C.

100 million feet of virgin long leaf yellow pine on 34,560 acres, two miles railroad, three miles water. \$7.00 per acre in fee simple. J. B. Brewton, Vidalia, Ga.

Virgin Yellow Pine, Cypress and Hardwood timber, on transportation and at fair prices; also cut-over lands. For prices and full details address Arthur T. Williams, P. O. Box 42, Jacksonville, Fla. 30 years handling timber lands in Florida. Reference any bank in Jacksonville.

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MINERAL AND TIMBER LANDS WATER POWERS, MISCELLANEOUS PROPERTIES

Wealth in virgin coal fields in Northern Alabama, near Tennessee River. Ready to mine with electric equipment; entries driven. Superior domestic steam and gas coal; unsurpassed in the South as an export coal. Iron ore, fire-clay, cement rock and limestone in vast quantities. Five million feet of Poplar, Oak and Hickory timber on property. Industrial railroad connecting with Southern Ry. system. Soil overlying 16,000 acres, ideal for cattle, sheep and Angora goats and for fruit raising. For full particulars, price and terms, write F. D. Pierce, 1505 E. Genessee St., Syracuse, N. Y.

RICH LIGNITE MINE: \$45,000 CASH. TEXAS—Newly opened. Producing Good Market. Rich by-products shown by Texas University analysis. On R. R. main line. Buyer to pay 5% commission. FRANK H. KELLEY COMPANY, Rockdale, Tex.

ASBESTOS MINE
GEORGIA—Asbestos mine, 145 acres, sell or lease on royalty. Unlimited short fibre asbestos. Complete data available. A. W. Johnson, 212 Mass. Bldg., Kansas City, Mo.

COAL LANDS AND MINES
LEASE OR SALE
600 acres of coal land in the heart of the Wise County Coal Field, near Glamorgan, Va. Would consider sale or lease, lease preferred, carries all the seams in the field, near Interstate Railroad. Price and description on request. W. H. Roberts, Wise, Va.

COAL LANDS—We have large listing Southern Coal Lands; also operating mines. Full information on request. Yeatman, Pill & Smith, 2109 First Ave., Birmingham, Ala.

FOR SALE—Going coal mines—coal, oil and gas lands—timber tracts. Reports made on same anywhere. E. H. Morris, Box 518, Charleston, W. Va.

TIMBER LAND
TIMBER LANDS—We have large number of timber tracts in Georgia, Florida, North Carolina, South Carolina and Alabama. Write for information. Yeatman, Pill & Smith, 2109 First Ave., Birmingham, Ala.

3000 acres of virgin hardwood timber, containing 12,000,000 feet, located in Sevier County, Tennessee; easy logging, \$16 per acre; a rare opportunity that will bear the closest inspection. Moore Land Company, Knoxville, Tenn.

TIMBER
FOR SALE—TIMBER ON 4000 ACRES of land on railroad, 20 miles north of Vicksburg, Miss., consisting of about two-thirds White and Red Oak, Balance Gum, Cypress, Pecan, Ash, etc. Will cruise about 5000 feet to the acre. Address Harry Marshall, South Brownsville; Pa.

Hardwood timber on 17,000 acres of land from which larger mill logs are being removed. A good proposition for handle or slack barrel factory. Reasonable arrangements may be made by responsible purchasers. Write care P. O. Box 609, Ope-lousas, La.

YELLOW FIR TIMBER—FOR SALE
300,000,000 feet yellow fir, key to a very much larger tract. The timber is as fine as there is on the coast and in a solid body, standing on 4000 acres. No deep canyons—long, gradual slopes. Location: Lane County, Oregon. \$150 per M. Address G. THE-DEN, 1034 Security Bldg., Minneapolis, Minnesota.

FARM, FRUIT, AND TRUCK LANDS

FLORIDA
215 acres; 150 in cultivation; large dwelling house and barns surrounded by productive Pecan grove; large shade trees; also fine vineyard and variety of other fruit on place. Fertile soil; well elevated; within half mile of public school and two churches; \$25.00 per acre, and will sell all stock and feed at bargain. Must be seen to be fully appreciated. Address N. H. Green, Branford, Fla.

FARM, FRUIT, AND TRUCK LANDS

FLORIDA
Five to six thousand acres high grade citrus and truck lands. In flowing well district, on Dixie Highway and A. C. L. Railroad between Orlando and Tampa. Splendid terms and a wonderful price to a quick buyer. Best colonization proposition in Florida. Wilcott & Co. Since 1883. Orlando, Fla.

FLORIDA—Come to Florida, "where its summertime in the wintertime, and pleasant all the year round;" no coal bills; no wintry ice or snow—just sunshine, and health and opportunity. Send for booklet, "Largest Orange Tree in the World," and list of homes, groves and farms. Tampa-West Coast Realty Co. (Inc.) opposite Post Office Since before the War." Tampa, Fla.

Rich, deep muck Everglade land, 10 acres to 25,000 acres, near Pennsylvania Sugar Company's \$1,250,000 sugar mill, north and west of Miami, Fla.—Price \$15.00 per acre up. Stewart, Hollister & McCune, Realtors, 136 N. E. 1st St., Miami, Fla.

SOUTH CAROLINA
Truck farms that pay dividends annually can be bought at reasonable prices here. Vegetables are shipped eight months in the year. Three and four crops are grown on the same land annually. Excellent climate and health. Plenty of labor; strikes unknown. Well organized association that sells all farm products. For particulars write, Lake Realty Company, Beaufort, S. C.

TEXAS
4200 acres heavy black land almost adjoining Corpus Christi, fronts three miles on road which will be hard surfaced, finest sub-division property in Texas, will sell as a whole for \$65 per acre or sub-divide in small tracts. For full particulars write Grubbs Realty Co., Corpus Christi, Tex.

20,000 acres level black land, all tillable, three miles from station on railroad, adjoining land nearly all in cultivation, abundant artesian water 600 to 800 feet, worth \$40 per acre in 40-acre tracts, form a company and re-sell, our price \$15 per acre net. RANCHES; 9000 acres, improved Duval Co., \$9.00 per acre. 10,200 acres Live Oak Co., three houses and barns, \$12.00 11,000 acres on Brooks and Hadealo line, near King of Trails Highway, \$7.00 per acre. 100,000 acres Terrell Co., lots of water, several houses, \$6.65 per acre, will divide. Write for full description, GRUBBS REALTY CO., CORPUS CHRISTI, TEX.

BUSINESS OPPORTUNITIES

If interested in the
BEST SECTION OF THE SOUTH
If you want a Cotton Mill,
or Southern Mill Stocks
or Investment in Central Real Estate
or Large Suburban Development property
or a Manufacturing Site
Address
F. C. ABBOTT & COMPANY
Trust Building, Charlotte, N. C.

Several Road and Bridge Contracts to sell or sublet in Florida, South Carolina, North Carolina and Virginia, all fully equipped with equities with or without equipment, all good profitable jobs. Address No. 6078 care Manufacturers Record, Balto.,

Big manufacturing proposition to let. No competition. Exclusive territory. Greatest necessity mind can think of. Will excel binder in profits and territory of activity. Dinky factories need not write. Pool Unison Manufacturing Co., Deming, N. M.

Gasoline filling station for sale at a sacrifice. One Wayne tank and pump with one-gallon stroke, with hose and everything complete, in perfect condition. Tank holds 280 gallons. The outfit cost \$260.00 and has been used very little. Will sacrifice for \$160.00. Only reason for selling is that I have discontinued selling gasoline and need the money. Address S. W. Allen, Rembert, S. C.

WANTED—Tire salesman and adjuster, experienced galvanizer in good Florida town, wants partner who can handle sales. Must be willing to invest in business; state age and what you can do first letter. No. 6082 care Manufacturers Record, Baltimore, Md.

WANTED—Party with ten thousand (\$10,000) dollars or more, manufacturing proposition. An Anti-Texedo Wood Preservation. P. O. Box 624, Jacksonville, Fla.

BUSINESS OPPORTUNITIES

COME SOUTH—Buy land. Build home. Go into business. Make money. Learn about the "Garden Spot of Dixie." Send for "THE LENORIAN," LaGrange, N. C.

RICHMOND, VA.—GATEWAY TO SOUTH
For Rent—For Sale—For Rent—For Sale From 10,000 to 200,000 sq. ft.; for factory, distribution and warehouse businesses. Gordon E. Strauss Co., 918½ E. Main St., Richmond, Va.

I **SPECIALIZE** in industrial, warehouse and business sites at and adjacent to Washington, D. C.

M. B. HARLOW,
Harlow Building, Colorado Building,
Alexandria, Va. Washington, D. C.

Interest open in Marine Transportation and Commission Company. Business enough from South to earn \$300,000 Net Annually, 25% on capital invested. Alfred S. Perry, Perry Building, Fairfield, Conn.

FINANCIAL

Prosperity of banking corporations built upon the ruin of the people. Read T. Cushing Daniel's book, "The Betrayal of the People" by Congress in passing the fraudulent gold basis Federal Reserve Act, and defeat any Representative who now tries to defend this financial scheme to rob the people. Popular edition. 25 cents. The Monetary Educational Bureau 1416 F St., Washington, D. C.

OPPORTUNITY FOR CONTRACTORS' INVESTMENT

A Texas contractor, widely known for large contracts, has one approximating ten million dollars on water power plants where three millions have been expended. Wants \$30,000 for preliminary expense. Will give absolute security and large profit. Write for particulars. P. O. Box 837, San Antonio, Tex.

BONDS—Have buyers for manufacturing, mercantile, industrial, mining; entire issues. A. W. Johnson, 212 Mass Bldg., Kansas City, Mo.

INDUSTRIES WANTED

INDUSTRIES WANTED—To locate at Oldsmar on Seaboard Railroad, 15 miles west of Tampa, Fla. Buildings and acreage for rent or for sale, easy terms. Reolds Farms Co., Oldsmar, Fla.

FACTORY SITES

FOR SALE OR LEASE

Four and one-half acres in Bridgeport, Conn. Desirable location, 450 feet on the railroad, spur track now on the property. 640 feet on the street; 650 feet on river and slip. Depth of river 18 feet at low tide. Site suitable for manufacturing, distributing center for lumber, cement or other uses requiring both water and rail facilities. Map and other particulars on request.

THE BRIDGEPORT LAND & TITLE CO.
AGENT
875 Main Street, Bridgeport, Conn.

FREE FACTORY SITES. FINANCIAL ASSISTANCE AND OTHER ATTRACTIVE INDUCEMENTS

J. D. Stone & Company, Inc.
No. 4 Arcade Building,
Norfolk, Va.

BALTIMORE

FACTORY

SITES

William Martien & Company.

1413 Lexington Bldg.,

Baltimore, Md.

INDUSTRIAL PLANTS

FOR SALE OR LEASE—Manufacturing site; 25 acres, Elkridge, Md.; on Patapsco River; about 150 H.P. developed; good buildings; partly equipped; main line B. & O. Address R. W. Kime, Salem, Va.

FOR SALE—Complete Refrigerating Plant, two-ton capacity, vertical enclosed type, splash oiling system, 4-inch bore, 8-inch stroke, single cylinder, 150 R. P. M. belt drive, Babbitt bearings, crank shaft drive and accessories. In service about 4 years. Price \$700 cash. Tallassee Power Co., Badin, N. C.

FOR RENT OR FOR SALE

Machine shop 60x200, with machinery; assembling shop 45x105; loading platform 20x120; office building 24x45, blacksmith shop. Easy terms. On Seaboard Railroad at Oldsmar, 15 miles west of Tampa. Reolds Farms Co., Oldsmar, Fla.

HOSIERY MILL FOR SALE

Small, old established mill making men's half hose and children's ribbed hose, now running and showing profits; good reason for selling; located in North Carolina. Address No. 6080 care Manufacturers Record, Baltimore, Md.

LIME WORKS—One of the largest lime works in South—average net income past four years approximately \$70,000 per annum, and this can be greatly increased. Sickness forces sale at \$500,000. Yeatman, Phil & Smith, 2109 First Ave., Birmingham, Ala.

TENNESSEE—2-story, brick Woolen Mill in operation. Receiving orders daily, enough on file to keep mill running several months. Water power, completely equipped, 40 looms. 100 acres land, 4 residences, 11 tenant houses, 2-story, brick commissary. Price \$50,000. Complete data available. A. W. Johnson, 212 Mass. Bldg., Kansas City, Mo.

PATENT ATTORNEYS

PATENTS, TRADE-MARKS AND COPYRIGHTS—Write for our Free Illustrated Guide Book and EVIDENCE OF CONCEPTION BLANK. Send model or sketch and description of your invention for our opinion of its patentable nature free. Highest references. Prompt service. Reasonable terms. Victor J. Evans & Co., 712 9th St., Washington, D. C.

PATENTS—Booklet free. Highest references. Best results. Promptness assured. Watson E. Coleman, Patent Lawyer, 624 F St., Washington, D. C.

PATENT ATTORNEYS

INVENTORS—Send sketch or model of your invention, for opinion concerning patentable nature, and exact cost of applying for patent. Book, "How to Obtain a Patent" sent free. Gives information on patent procedure and tells what every inventor should know. Established 25 years. Chand-lee & Chand-lee, 412 7th St. N.W. Washington, D. C.

LUMBER AND BUILDING MATERIAL

FOR SALE:
1 car $\frac{5}{8}$ x 3-2 $\frac{1}{2}$ " Face B & Better Ceiling
 $\frac{1}{2}$ car $\frac{5}{8}$ x 3-2 $\frac{1}{2}$ " Face No. 1 Com. Ceiling
 $\frac{1}{2}$ car $\frac{5}{8}$ x 3-2 $\frac{1}{2}$ " Face No. 2 Com. Ceiling
3 car $\frac{5}{8}$ x 4-3 $\frac{1}{4}$ " Face No. 3 Com. Ceiling
Ingram-Day Lumber Company, Lyman, Miss.

AGENCIES WANTED

Sales Agency—Solicits correspondence with manufacturers for the sale of their products in Joplin territory. Robt. A. Wilson, 202 Ind. Bldg., Joplin, Mo.

SITUATIONS WANTED

POSITION WANTED—By experienced traveling salesman with firm who are represented in Australia. Going there to live in one year. Box 534, Cedartown, Ga.

SUCCESSFUL SECRETARY WANTS POSITION

Position as Commercial Secretary wanted in town of from 20,000 to 50,000 population in North Atlantic or middle states. I have made a success in this line and now hold good position, but for certain reasons apart from the job, desire new location. Have had wide business experience, am trained publicity man, and familiar with freight matters. First-class references furnished. No. 6081 care Manufacturers Record.

MEN WANTED

Experienced Superintendent or Engineer wanted, to take charge of important work with contracting firm having several road and bridge contracts in Southern States. Prefer man with \$10,000 to \$20,000, to invest in good proposition. Address No. 6079 care Manufacturers Record, Balto., Md.

SUPERINTENDANT, experienced in shop practices and management by a manufacturer of farm implements. Applicants give age, experience, references and salary expected. Opening is for a man in position to invest \$10,000 in preferred stock of the company. Address No. 6083 care Manufacturers Record, Baltimore, Md.

MEN WANTED

Wanted competent salesman in large cities of the South to sell our complete lines of Radio Supplies to dealers. Applications confidential. Jos. M. Zamolski Company, Radio Building, Baltimore, Md.

EXECUTIVES

Qualified men—Technical, Commercial or Manufacturing—seeking new positions find our effective and confidential service extremely satisfactory. Our Mr. H. H. Harrison can negotiate a suitable connection for you as he has done for thousands of others since 1909. Inquiries invited; confidences respected.

THE NATIONAL BUSINESS BOURSE, Inc.
Confidential Negotiators
Association Building, Chicago.

Energetic salesman with engineering knowledge to represent high-class tank manufacturer in southern territory. Address reply, stating experience, age, salary expected and reference, to No. 6077, care Manufacturers Record, Baltimore, Md.

A LEADING ORGANIZATION desiring to fill an important position, for obvious ethical and other reasons, cannot invite directly the candidacy of any particular man. Similarly, no well-connected man will exploit personally his own qualifications. No matter how receptive he may be to overtures. The undersigned has been retained by a national clientele for many years, as a medium for negotiating preliminaries in such cases. Your permission to send booklet discussing this problem and describing the service, will in no degree obligate or compromise you. Strictly confidential. R. W. Bixby, Inc., 303 Lockwood Bldg., Buffalo, N. Y.

MACHINERY AND SUPPLIES

Valves and pipe fittings, all sizes and kinds. Let us figure on your requirements. Pratt Thompson, 220 E. Lexington Street, Baltimore, Md.

We have a limited number of 15 and 20 H.P. New Cushman two-cylinder oil burning engines to offer at bargain prices. For prices, etc., write Cole Bros., Chilhowie, Va.

FOR SALE—Farrell Jaw Crusher, second-hand, good condition, shipping weight 39,000 pounds. Price \$1000 cash. Tallassee Power Company, Badin, N. C.

International Electric Time Cost Recorder Master Clock, five station cost recorders, batteries and 4000 cards, perfect condition, original cost two years ago \$445; for quick sale \$250. Address Time Clock, P. O. Box 1920, Washington, D. C.



SPECIAL ADVERTISEMENTS OF GENERAL INTEREST

To the Executive

YOUR SALESMANAGER WILL AGREE that if he had the time he would prepare a complete statement of company policies, including instructions how best to sell the line. He'd let the catalogues advertise the products, but he'd put the statement in such form that a big part of it could be used to sell the organization behind the products. But he hasn't the time, and its expert work. Write for the plan today.

Arthur M. Kennedy

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A rich and stimulating volume it is, valuable to the investor, of daily use to the business man, and exceedingly helpful to student and educator. In thoughtfully compiled records like this is much of the meat of history; and truly may it be said of this one that it is a book, not only to be tasted, but to be "chewed, swallowed and digested."

—Atlanta Journal.

Single Copies 50c

Manufacturers Record, Baltimore, Md.

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INTERNATIONAL SHIPBUILDING CO., INC.

Pascagoula, Miss., 90 Miles East of New Orleans on L. & N. Railway

Their valuable Shipbuilding Plant, including all real estate and improvements, fabricated steel buildings, hotels, apartment houses, bungalows and other buildings and all machinery, ship supplies, tools, and equipment of every description.

VALUED AT OVER \$3,000,000.00

To be sold in suitable lots without limit or reserve

FITZPATRICK-TILL AUCTION CO., INC.

Harry W. Fitzpatrick and Hugh S. Till, Auctioneers

Sell at Public Auction

Thursday, October 26th Friday, October 27th Saturday, October 28th

at 10 A. M. each day on premises at Pascagoula, Miss.

New Ingersoll-Rand 2-stage, 2000 ft. capacity Steam Driven Air Compressor

3 Locomotive Cranes; American, Industrial and Thew

2 Fabricated Steel Buildings, 542 ft. 6 in. x 74 ft. 6 in. and 307 ft. x 74 ft. 6 in.

Lathe up to 46 ft. 9 in. bed.

Generating Unit driven by Skinner Steam Engine.

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Boring and Drilling Machines.

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Timber Sizers.

Radial Drills.

Steam Hammers of 800 and 3500 pounds.

Duplex and Centrifugal Pumps, electric and steam driven.

Expanding and Flanging Machines.

Locomotive BOLLERS.

Air Tools, consisting of hammers, chippers, motors, etc.

Six miles of Cast Iron Pipe and fittings from 4 in. to 8 in.

Auto Truck, Ambulance and Touring Cars.

Fire and Electric Systems, Air System, Launching Ways, Derrick Towers.

27 1-2 Ton Lima Shay Geared Locomotive

Approximately 250 Buildings, consisting of Hotels, Apartment Houses, Bungalows and Cottages from 3 rooms to 40 rooms each. Ball Park with grand stand and bleachers, Club House, etc. Approximately 30 squares of ground with improvements now producing an annual revenue of over \$60,000.00.

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Atlanta Rates	Regular Switching
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A SPLENDIDLY MILL CONSTRUCTED BRICK BUILDING

three stories high, 280 ft. long x 65 ft. wide. Situated in a live Southern Virginia town of 6,000 population and located on two railroads; Southern and Norfolk & Western. Sidings run parallel, building full length on both sides. Will sell at a great bargain. Terms, liberal.

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HYDRO-ELECTRIC POWER
EQUABLE CLIMATE

Sizes to suit all needs on all railroads. Supplies of coal, coke, iron and steel within trucking distance.

Labor situation better than in other industrial centers. Hydro-electric power available. Equable climate. Address

BIRMINGHAM REALTY CO.

Owners
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I will furnish two-story Building 30x60, Railroad Siding and Electric Current alongside, for an interest in a reliable manufacturing proposition. Location near Trenton, N. J. Address

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"Every man, woman and child in the United States should read the Blue Book of Southern Progress. I will admit that I really have learned more about the South from it than I have by living in the South forty years. Single Copies 50c.

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For immediate delivery near
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one approximately ten thousand gallon Oil Storage Tank; six to eight feet in diameter.

Two oil Storage Tanks forty-eight inches diameter by about thirty feet in length.

MACWILLIAMS DREDGING COMPANY

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WANTED

to buy one Sullivan single head channelling machine.

APPALACHIAN MARBLE COMPANY

Knoxville, Tenn.

WANTED

2 belt driven or direct connected air compressors of approximately 500 cu. ft. each, 100 lbs. steam pressure or better, 220 or 440 volt, 2 phase; second-hand but in first-class condition.

HENRY A. HITNER'S SON CO.

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WANTED TO PURCHASE FOR CASH

500 KW and 1500 KW condensing steam turbine complete—125 to 150 pounds gauge—2300 volt—60 cycle—3 phase. Might consider capacity in one unit. Must be in first-class shape and cheap.

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Small revolving steam or gas shovel with long reach, or any good grading machine to take material from side and build grade.

Address

E. W. PARKER

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EQUIPMENT

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25 CYCLE MOTORS

We carry in stock, motors and generators of every description—but have an exceptionally large assortment of 25 cycle—our location being in the heart of the greatest 25 cycle power district.

One of our offerings:

52—KT-333—20 H.P. G.E. 40° 3-Ph., 25-Cy., 440 V., 750 R.P.M. Motors with CR-1034 compensators.

Latest Type! Rock-Bottom Price.
Let us quote you.

THE W.G. NAGEL ELECTRIC CO.
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Your Products Exhibited

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Will give you results in actual business. Exhibits on ground floor
Write for information

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2—150 H.P. "Economic" 125 lbs.
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Immediate Stock Shipment.
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1—No. 16, 20" x 16" "P B Yates"
95% NEW

PRICED TO SELL

L. F. SEYFERT'S SONS INC.
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20 K. W.

125 v. Crocker-Wheeler Generator, direct connected to 8 x 9 Fleming Harrisburg, horizontal, side crank, automatic engine, complete with rheostat for back of board. Operated 6 months. Price \$650 cars Phila.

COLEMAN-SHOEMAKER, INC.
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Boilers (over 3000 H.P.)

- 1—461 H.P. Heine 180 lbs.
- 1—350 H.P. Heine 180 lbs.
- 2—203 H.P. Heine 150 lbs.
- 1—125 H.P. Heine 150 lbs.
- 4—250 H.P. Casey Hedges 225 lbs.
- 2—200 H.P. H. R. T. 125 lbs.
- 1—160 H.P. H.R.T. 125 lbs.
- 2—150 H.P. "Economic" 125 lbs.
- 1—60 H.P. Loco. Type 125 lbs.
- 1—60 H.P. Portable R.T. 100 lbs.
- 1—35 H.P. Loco. Type 100 lbs.
- 1—80 H.P. Kewanee heating.

Cars

- 18—4 yd. Western side dump, 36" gauge.
- 11—24 cu. ft. K. & J. steel, shaft mine, 18" gauge.

Engines

Large assortment of steam engines, slide valve, automatic and Corliss, all sizes up to 500 H.P.

Generators

- 3—25 K.W., 115 Volt, direct current Gen. Elec. Co. direct connected to 50 H.P., 4 cylinder gasoline engine.

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Full Diesel Type Oil Engines

- 1—500 BHP, Vert., 4 cyl. Cpld. to A.C. or D.C. Gen.
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- 2—225 BHP, Vert., 3 cyl. Cpld. or Bltd. to A.C. or D.C. Gen.
- 4—200-225 BHP, Vert., 6 cyl. Cpld. to A.C. or D.C. Gen.
- 1—170-190 BHP, Vert., 3 cyl. Cpld. or Bltd. to A.C. or D.C. Gen.
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- 1—200 BHP, Vert., 4 cyl. F.M. Type "Y" Bltd.
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- 2—80 BHP, Vert., 3 cyl. F.M. Light Dist. Oil Bltd.
- 1—50 BHP, Vert., 2 cyl. F.M. Light Dist. Oil Cpld. to A.C. Gen.
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- 1—20 BHP, Vert., 1 cyl. V.S. Crude Oil Bltd.
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Gas Engines

- 2—800 BHP, Horz. Twn. Tndm. Dbl. Act'g. Natl. Gas Cpld. to A.C. Gen.
- 3—750 BHP, Horz. Sgl. Tndm. Dbl. Act'g. Natl. Gas Cpld. to A.C. Gen.
- 1—450 BHP, Horz. Sgl. Tndm. Dbl. Act'g. Natl. Gas Cpld. to A.C. Gen.
- 2—375 BHP, Horz. Sgl. Tndm. Dbl. Act'g. Natl. Gas Cpld. to A.C. Gen.
- 1—150 BHP, Vert., 3 cyl. Cpld. to D.C. Gen.
- 1—100 BHP, Vert., 3 cyl. Cpld. to 3-wire D.C. Gen.
- 1—150 BHP, Vert., 3 cyl. Bltd. or Cpld.
- 1—250 BHP, Vert., 4 cyl. Bltd. or Cpld. NEW.
- 1—100 BHP, Vert., 4 cyl. Bltd. or Cpld. NEW.

Above only partial list—write or wire us full details your requirements.

A. McMILLAN, 628 Monadnock Block, Chicago
Specialist in Diesel Type Oil and other Internal Combustion Engineering

Farm Lighting Plants

New Perfection Lighting and power plants 1¼ K.W. gasoline—electric with storage batteries, operates 25-40 watt lights and small motors for domestic appliances and radio equipment. Regular price \$500.00. Our special bargain price, limited quantity, while they last, only \$275.00. Write for illustrated circular.

Hoisting Engines

- 6—Big bargains in this lot—7x12 dbl. cylinder, single drum, steam hoisting engines, reversible, drum 16" x24", winch head, band brake.
- 1—9x16 Mundy mine hoist 50 H.P. reversible, drum 48"x46".

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Special deal on closed type heaters all sizes, 50 to 800 H.P. practically new, tested and guaranteed.

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1 ton steam or motor drive latest type practically new, complete with refrigerating coils. Excellent cold storage plant for commissaries, saw mill plant, contractors, etc.

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Overhauled Before Shipment

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One (1) 11"x22"x37"x23"x24" PRINCE Triple-expansion Direct-acting 8,000,000 gallon per day Pumping Engine, complete with interchangers, waterworks condenser and all connections in first-class condition; 105,000.-000 foot-pounds duty water end good for 175 lb. or under. F.O.B. cars Jacksonville, Fla. or Erected on your foundations.

One (1) 3½"x37" Stroke Triplex geared power Pump geared to 50 gal. capacity per minute F.O.B. Jacksonville.

DIRECT CURRENT ENGINES AND GENERATORS

One 80 H.P. Fleming Side Crank Engine, number 2603, 10x10 300 RPM, direct connected to a General Electric 35 KW. 220-250, 110 Amp. speed 300 R.P.M. class 6-35-300, Type MP, Form L, Number 60592. Full load 250 volt. Space occupied by this engine 8' x8' 6". F.O.B. Jacksonville, Fla.

One 37½ KW General Electric Generator, DC 250 to't, 150 Amp. 300 RPM, number 128725, 6 poles, direct connected to a Westinghouse Steam Automatic Engine, size 10x18x10 Compound, Number 128388. The space occupied by this Unit 11' 3" x 5' x 7' high. F.O.B. Jacksonville, Fla.

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ALTERNATING CURRENT ENGINES AND GENERATORS

One 750 K.W. General Electric 2300-volt 3-phase 60 cycle Alternator, direct connected to 25"x42"x30" Lentz cross-compound condensing engine 164 R.P.M. immediate shipment; used about two years; guaranteed first-class condition. A real bargain. Florida delivery.

One 16"x18" Erie Ball Corliss Non-releasing Valve engine, with Gravity Oil system to all bearings, positive feed Cyl. force feed Lubricator, rated at 240 H.P. with 120 lbs. Steam Pressure, direct connected to 150 K.W., 3 Phase, 60 Cye., 2300 Volt, Allis Alternator Current Generator, with 7½ K.W. Exciter and belt all in first-class condition speed 225 R.P.M. this engine will operate on less than 24 lbs. steam per H.P., runs like a sewing machine. F.O.B. cars Jacksonville, Fla.

One Harrisburgh (Fleming engine) right hand 153 H.P. at 110 lbs. steam, 156 H.P. at 125 lbs. steam, 4-valve type, direct connected to 100 K.W., 3 phase, 60 cycle, 2300 volt Westinghouse generator, Serial No. 370066, 10 K.W., 125 volt, direct current Westinghouse generator for exciter belted to generator shaft. Also one marble panel switchboard. Price on application.

One 80 K.W., 40° Rise (100 KVA) Fort Wayne 2300 volt, 3 phase, 60 cye Alternating Current Generator with revolving field, 900 RPM including base, sliding rails and pulley, with 4 KW 125 volt compound wound belted Exciter with base rails and pulley, for the net sum of eight hundred and fifty dollars. F.O.B. cars Jacksonville, Fla.

One (1) 15 HP. G.E. Induction Motor, No. 592124, Form K. Rev. 865—Amper 41, 220 V. 3 Ph. 60 Cye. pulley 8"x3"—Starting Compensator with no Voltage release, form A2-220 volts prim. 110 Sec. Type 1614, practically new, price \$290 F.O.B. Jacksonville, Fla.

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Two (2) 184 H.P. Stirling Water Tube Boilers, 160 lb. Working pressure, total 368 H.P. Class E, single battery fronts, all fittings, including High pressure steam main and L. T. Bends and Valves.

One (1) 100 ft. x 48" Steel Stack and cross flue, ¾" iron

One (1) 20" C. I. Elbow—1—20" Check Valve,—1—20" Gate Valve.

REFRIGERATING MACHINE

One (1) Complete 6½"x6" two Cyl. Erick vertical Am. Compressor, 8 Tons refrigeration, and complete ice making plant.

W. R. JENNISON, 607 Bisbee Bldg., Jacksonville, Fla.



ON THURSDAY, NOVEMBER 9th

1,200,000-lbs. (Approx.) used and unused Non-ferrous METAL TUBES AND TUBING

Tubing Consisting of:

Admiralty Metal, Aluminum, Phosphor Bronze, Torpedo Bronze, Muntz Metal, Composition Metal, Brass, (Ferrule, Square, Hexagon Outside, Round Inside.—Casting, Hard Drawn and Semi-Annealed).

Tubes Consisting of:

Condenser—Brass, Admiralty Metal, Muntz Metal.
Evaporator—Brass, Admiralty Metal, Copper, (U Shape tubes.)
Distiller—Admiralty Metal, Tinned Inside and Outside.
Feed Water Heater—Admiralty Metal, Brass.

Write or wire for Cat. No. 119-B, fully describing these materials and giving detailed quantities, sizes and locations, also terms of sale, to any of the following, who will also arrange for inspection:

Supply Officers at Navy Yards:

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Norfolk, Va.

Naval Training Station,
Great Lakes, Ill.

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New York, N. Y.

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Mare Island, Calif.

Board of Survey, Appraisal and Sale

Naval Supply Depot, S. Brooklyn, N. Y.

Bids on this sale must be in the form given in the above Cat. No. 119-B. Bids should be plainly marked and addressed to the undersigned, where they will be publicly opened at 11:00 A. M., Thursday, November 9, 1922.

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NAVY YARD WASHINGTON, D. C.

WATER TUBE BOILERS

Two (2) 338 HP Heine Water Tube Boilers, pressure allowed last inspection 200 lbs., single drum type, hand fired, complete with Bayer Soot Blowers, full front, all castings, and steam trimmings. Immediate Shipment. An unusual opportunity to secure a pair of high grade boilers at an exceptionally low figure.

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Equipment - Machinery - Supplies
to be sold

AT PUBLIC AUCTION SALE
WEDNESDAY, THURSDAY AND FRIDAY
NOVEMBER 1st, 2nd and 3rd
at 10:30 A. M. Each Day

The Emergency Fleet Corporation is about to vacate Hog Island and has directed us to sell at Public Auction sale all surplus machinery, equipment, supplies, etc. now located there reserving only that which will be included with the real estate and that which is being used for loading. Therefore this is your

LAST CHANCE

to buy this material which consists of

- Ship equipment and supplies—
- Heavy Machine Tools—
- Motors—Pumps and Engines—
- Drills, Reamers—
- Pipe, Valves, Gauges—
- Pipe fittings and Plumbers supplies—
- Contractors Equipment—
- 400 Search Lights—Various Sizes—
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For full particulars and descriptive catalogue apply to the Auctioneers.
By order of The U. S. S. B. Emergency Fleet Corporation

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Nos. 1519 - 1521 Chestnut St.

Philadelphia, Pa.

3—80 Ton Ice Machines

23—Hand Travelling Cranes

Stromburg Electric Time and Cost Recording System



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You'll want to bid on—

Ferrous and Non-Ferrous Metals

Located at COLUMBUS, OHIO

5,695 pcs. 12" forgings; wgt. each, 1200 lbs.

32,392 pcs. 8" shells; wgt. each, 73.25 lbs. steel, 2.75 lbs. copper, .50 lbs. lead.

590 pcs. 8" shells; wgt. each, 162 lbs. steel, 5.25 lbs. copper, .75 lbs. lead.

28,429 pcs. 8" gas shells; wgt. each, 162.25 lbs. steel, 4.50 lbs. copper.

Located at SAVANNA, ILL.

4,922 pcs. 3" Stokes trench mortar shells; wgt. each, 7.1 lbs. malleable iron, .38 lbs. white metal, 1.29 lbs. steel.



A choice offering of ferrous and non-ferrous metals, in the form of shells and forgings, is offered by the War Department for your purchase by

Sealed Bids at Chicago, October 31

This material which totals 6,389 gross tons, is located at the Columbus General Reserve Depot, Columbus, O.; and the Savanna Ordnance Reserve Depot, Savanna, Ill. Inspection can be made upon application to the Commanding Officer at the respective points of storage.

Note, however, that all bids must be submitted to the Chairman, Chicago District Ordnance Salvage Board, 7400 S. Ashland Ave., Chicago, Ill. Bids will be opened in his office, October 31.

Send to the above address for proposals, terms of sale and all other information concerning this sale. The Government reserves the right to reject any or all bids.

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NEW - EQUIPMENT - BARGAINS**KERR TURBINE ENGINES**

2500 H.P. 3600 RPM
2650 H.P. 3600 RPM
3000 H.P. 3600 RPM

TURBINE STEAM PUMPS

20 H.P. Non-condensing 3600 RPM
5 H.P. Direct Connected 2500 RPM

BOILERS

25 H.P. Vertical
80 H.P. Locomotive A.S.M.E.
80 H.P. Return Tubular A.S.M.E.
125 H.P. Return Tubular A.S.M.E.

PUMPS

10x12x12 Worthington Horizontal Duplex
7x8x10 Deane Vertical Duplex
10x6x18 National Transit Vertical Simplex
No. 7 Single Cylinder Double action Force

MISCELLANEOUS

100-Ton Hydraulic Bending & Straightening Press
Angle Bending Machine
Channel & Angle Flanging Machine
Lyschmidt Tables
Buckeye Oil Rivet Forges
Buffalo Blacksmith Forges
Roebbing Patent Slings
Hisey Grinders—3 H.P. Motors—3
Phase—60 Cycle—440 Volts—Second-hand.

POTTSTOWN STEEL COMPANY
DOUGLASSVILLE, PA.

823 H. P. BOILERS

from

OLD HICKORY PLANT

38—823 H.P., Type M-30 Stirling Water Tube Boilers. B. & W. make. Complete with Westinghouse Stokers, forced draft fans, Vulcan Soot cleaners and all accessories.

New method of dismantling and cutting tubes makes re-erection easy and practical. Complete information, specifications, etc., on request.

NASHVILLE INDUSTRIAL CORPORATION
Plant Sites and Equipment
JACKSONVILLE - TENNESSEE

NEW AND SECOND HAND MACHINERY FOR SALE

2—250 H.P. Heine Safety Boilers with fixtures.
1—125 H.P. High Pressure Locomotive type Boiler, 66 inch dia., 18 feet long over all, 199—2 inch flues 10 feet long. Fire box 4 ft. 10 in. wide by 5 ft. 0 in. long by 4 ft. 6 in. deep. 43 feet of 30 inch stack, all regular Catalogue fittings. Good for 150 lb. pressure.

The above have been used but are in A No. 1 condition.

1—80 H.P. Locomotive type Boiler, 50 inch dia., 21 feet long over all. 63—3½ inch flues 14 feet long. Fire box 3½ feet long by 4 feet deep by 4 feet wide. A1 Catalogue fittings including Stack, 125 lb. pressure. This is a New Boiler.

1—8 inch Centrifugal Dredge Pump with 200 feet of 8 inch spiral riveted galvanized pipe with elbows, rubber sleeve connections, suction hose, pulley shafting, clutches, winch heads, etc. This is a complete dredging outfit. New—Never been set up.

1—Hill Curtis Steam Drag Saw. Cy'nder 8 inches by 5 feet. Saw 10 inches by 8 feet. New.
1—6 H.P. Fairbanks-Morse Single Drum Hoisting outfit. Gasoline Engine, magneto equipped. Good condition.

4000 feet of 1 inch 6x9 Monitor Logging Rope.
8000 feet of ¾ inch Crucible cast steel Hoisting Rope. This is American Steel & Wire Co.'s Rope New.

1—32 inch by 6 inch Power Grind Stone with 24 inch by 6 inch pulley (mounted).
900,000 lbs. of 25, 30, 35, and 40 lb. Relay Rail, straightened, trimmed and drilled.

McGOWIN-LYONS HDWE. & SUPPLY CO
MOBILE, ALA.

Slightly used creosoted pine lumber for sale of the following dimensions.

140	pieces	4"	by	8"	by	24"
36	"	4"	by	8"	by	20"
75	"	3"	by	8"	by	24"
125	"	3"	by	8"	by	22"
130	"	3"	by	8"	by	20"
991	"	3"	by	8"	by	18"
311	"	3"	by	8"	by	16"
8	"	8"	by	16"	by	28"
49	"	8"	by	16"	by	24"
1	"	8"	by	16"	by	22"
312	"	8"	by	16"	by	20"
2	"	8"	by	16"	by	18"
2	"	8"	by	16"	by	16"
2	"	8"	by	16"	by	14"
275	"	4"	by	12"	by	20"
6	"	4"	by	12"	by	18"
8	"	4"	by	12"	by	16"
64	"	10"	by	12"	by	24"
21	"	6"	by	12"	by	24"
2	"	6"	by	12"	by	22"
551	"	8"	by	12"	by	20"
2	"	6"	by	12"	by	18"
11	"	6"	by	12"	by	24"
3	"	6"	by	12"	by	14"
131	"	4"	by	6"	by	12"
31	"	3"	by	6"	by	12"
2	"	3"	by	12"	by	22"
3	"	3"	by	12"	by	14"
81	"	4"	by	16"	by	12"
5	"	12"	by	12"	by	28"
82	"	12"	by	12"	by	22"
77	"	12"	by	12"	by	20"
270	"	1½"	by	8"	by	7"
						and 1½" by 5½"

DALBY, NOTTINGHAM COMPANY
Lewellyn & 21st St. Norfolk, Va.

FOR SALE CHEAP

One—32" 3-ply used Leather belt 100 ft. long.
One—18" 3-ply used Leather Belt 100 ft. long.
And various widths of Double Leather Belting.
All in excellent condition.

B. F. GUMP CO.

431 S. Clinton St. Chicago, Ill.

FOR SALE

420 volt D.C. MOTORS LIKE NEW at sacrifice prices.—
W. are overstocked and closing these out—Low PRICES for immediate sale.—

GREGORY ELECTRIC CO.

Send For Monthly Bargain Sheet

16th & Lincoln St., Chicago, Ill.

STAPLE DRIVING MACHINES

For Sale

Three Saranac Single Head Corrugated Staple Driving Machines.

LEIGH BANANA CASE CO.
Chicago, Ill.

Burners, Tanks, Steel Lockers

All sizes of Hauck Burners and Tanks, used.

212—Steel Lockers, used.

DIXIE MILL SUPPLY CO., INC.
NEW ORLEANS, LA.

3—230 H. B. & W. Boilers 160 lbs. Complete with grates and fittings.

\$8.00 per HI

f. o. b. cars Jacksonville, N. C.

PFANNMUELLER ENGINEERING CO.

305 First National Bank Bldg. CHICAGO

USED OIL ENGINES

20, 35, 40, 50, 60, 85, 100, 120, 140, 150, 200, 225, 280 and 500 H.P. used oil engines in good condition. Write for prices.

ROBERT P. KEHOE

7 East 42nd St., New York City
Telephone Vanderbilt 9595

MOTOR BARGAINS

2—200 H.P. 450 RPM, 3 Ph, 440 V, 60 Cy, New G.E.
2—150 H.P. 500 RPM, 3 Ph, 440 V, 25 Cy, Used.
1—100 H.P. 900 RPM, 3 Ph, 320 V, 60 Cy, New G.E.
2—75 H.P. 900 RPM, 3 Ph, 440 V, 60 Cy, Used.
1—70 H.P. 225/450 RPM, 250 V, D.C., G.E.
15—50 H.P. All Speeds, 3 Ph, 60 Cy, and 25 Cy.
Large Stock Motors and Generators, A.C. and D.C.

V. M. Nussbaum & Co., Ft. Wayne, Ind.

MACHINERY and SUPPLIES

IMMEDIATE DELIVERY:

BOILERS

1—B. & W. 284 H.P. Water Tube; 150 lbs. pres.
1—Erie City, 250 H.P. Water Tube; 150 lbs. pres.
1—72" x 18' Horizontal Tubular; 125 lbs. pressure.
2—66" x 28' Horizontal Tubular; 115 lbs. pressure.
1—72" x 16' Horizontal Tubular; 115 lbs. pressure.
1—100 H.P. Locomotive Fire Box; 100 lbs. pressure.
1—50 H.P. Locomotive Fire Box; 90 lbs. pressure.
1—50 H.P. Internally Fired; 90 lbs. pressure.
1—30 Vertical; 110 lbs. pressure.
1—20 H.P. Vertical; 100 lbs. pressure.

ENGINES

1—28" x 48" Hamilton Right Hand Corliss.
1—20" x 42" Ohio Right Hand Corliss.
1—18" x 42" Atlas Right Hand Corliss.
1—12" x 24" Buckeye Left Hand.
1—12" x 24" Douglas Plain Slide Valve.
1—10" x 12" Chandler Taylor Plain Slide Valve.
1—9" x 10" Armington & Simms Automatic.

PUMPS

1—16" x 8½" x 12" Duplex Steam.
1—14" x 10¼" x 10" Duplex Steam.
1—12" x 7" x 10" Duplex Steam.
1—10" x 6" x 10" Duplex Steam.
3—6" x 4" x 6" Duplex Steam.
4—5¼" x 3¼" x 5" Duplex Steam.
2—4½" x 2½" x 4" Duplex Steam.
1—8" x 8" Deane Triplex Single Acting Power Pump.
1—Kingsford Horizontal Centrifugal Water Pump, 24" suction, 24" discharge.
1—Platte Iron Works Horizontal Centrifugal Water pump, 14" suction, 12" discharge.
1—Fulton Horizontal Centrifugal Water Pump, 12" suction, 10" discharge.

AIR COMPRESSORS

1—Sullivan Straight Line Air Compressor, 24" steam cylinder, 26" low pressure air cylinder, 16½ high pressure air cylinder, 30" stroke, capacity 1850 cu. ft. per minute.
1—Laidlow-Dunn & Gordon Belt Driven Air Compressor, size 25" x 15" x 18", capacity 1750 cu. ft.
1—Chicago Pneumatic Single Stage Steam Driven Compressor, two cylinders, size 22" x 10"; capacity 1700 cu. ft.
1—Laidlow-Dunn & Gordon Belt Driven Air Compressor, size 25" x 15" x 18", capacity 750 cu. ft.
1—Ingersoll-Sergeant High Pressure Steam Driven Air Compressor, two stage, low pressure cylinder 18" x 12", high pressure cylinder 12" x 12"; capacity 600 cu. ft.
1—Clayton Duplex Steam Driven Air Compressor, duplex steam and two stage air cylinders, dial steam cylinder 10", low pressure air cylinder 16½", high pressure air cylinder 10", stroke 10"; capacity 425 cu. ft.
1—Chicago Pneumatic Fuel Oil Driven Compressor; capacity 300 cu. ft., 100 lbs. pressure.
12—New York Air Brake Co. Locomotive Type Two Stage Air Compressors, 10" low pressure cylinder, 8" high pressure cylinder, 8" stroke, 7" steam cylinders.

TANKS

25—30,000 Gal. Vertical, Storage.
20—10,000 " horizontal, storage.
15—5,500 " " "
10—2,000 " " "
25—1,000 " " "
25—560 " ver. or horizontal storage.
50—Complete Underground Gasoline Storage Tanks, consisting of 160 gal. galv. tank, 14 gauge material, bearing Underwriters' label, with hand pump, also pipe and fittings complete.
25—Complete Underground Gasoline Storage Tanks, consisting of 200 gal. steel tank, 3/16 in. material, with hand pump, also pipe and fittings complete.
25—22 in. by 54 in., 150 lbs. pressure.
10—20 in. by 8½ ft. to 9½ ft., 150 lbs. pres.
10—16 in. by 42 in., 150 lbs. pressure.

Send for a free copy of Bulletin No. 305 describing our complete Stocks of Machinery and Equipment.

HARRIS BROTHERS CO.
35th & Iron Sts., Chicago, Ill.

CASTLE & WILSON, 1601 Arrott Building, PITTSBURGH, PA.

GENERATORS

1-150 K.W. D.C. Crocker-Wheeler, 250 volt, 200 R.P.M. engine type.
1-200 K.W. Bullock, 220-250 volt, direct current, 450 R.P.M., 3-bearing.

MOTOR-GENERATOR SET

1-75 KW. 500 volts, D.C., Burke Generator to 115 H.P. 2200 volts, 3-phase, 60 cycle, Burke motor.

ENGINES

12x16" Buckeye. 16x16" Phoenix. 16 x16" McEwen.
16 1/2 x30" Buckeye. 24 x32" Fulton Iron Works.

TANDEM COMPOUND BELTED ENGINES AS FOLLOWS

13 and 22 1/2 x 30" Buckeye.
12 and 21 x 27" Buckeye.

DIRECT CONNECTED ENGINES

1-200 K.W. 250 volt, 200 R.P.M. General Electric Generator and Erico Ball Engine.

1-150 K.V.A., 2300 volt, 60 cycle, 3 phase generator, direct connected to four valve engine, 200 R.P.M.

1-100 K.V.A., 2300 volt, 60 cycle, 3 phase generator, direct connected to piston valve engine, 257 R.P.M.

WATER TUBE BOILERS

1-400 H.P. B. & W. 150 lbs. Iowa.

AIR COMPRESSOR:

1-18x18" Duplex, belt driven.

CONDENSER

1-12 and 20x24 Blake Single-cylinder Jet Condenser, brass fitted.

**400 K. W. PLANT
A REAL BARGAIN FOR QUICK SALE**

2—Used 300 H.P. type T.A. DeLaval Turbines each mounted on common base with and direct connected to 2—100 K.W. each, 80% P.F. Bullock, 3 phase, 60 cycle, 240 volt, 900 R.P.M. Generators making 400 K.W. capacity, either 240 or 480 volts. Units complete with exciters, switchboard instruments, barometric condenser, connecting piping, circulating pumps, vacuum pumps, and accessories. Plant can also be operated non-condensing if desired. Full particulars on request.

— ALSO —

BOILERS ENGINES MOTORS GENERATORS

THE RANDLE MACHINERY CO.

Established 36 years

1734 POWERS ST. CINCINNATI, OHIO

NEW MOTORS—Immediate Shipment

Quan.	H.P.	V.	R.P.M.	Type	Make
3	25	220	850	K	R. & M.
1	40	220	1200	B	Fairbanks-Morse.
1	40	220	1200	H	Fairbanks-Morse.
1	40	440	900	H	Fairbanks-Morse.
1	50	440	900	H	Fairbanks-Morse.
1	50	220	1300	H	Fairbanks-Morse.
1	50	440	850	AN	Allis-Chalmers.
1	75	440	900	B	Fairbanks-Morse.
1	75	220	865	AN	Allis-Chalmers.
1	150	2200	600	Q	Crocker-Wheeler.

GEO. F. MOTTER'S SONS

Steam and Electrical Engineers

YORK, PA.

**MACHINERY—FOR SALE
ELECTRICAL**

DYNAMOS, MOTORS AND GENERATING UNITS.

POWER PLANT

BOILERS, ENGINES, PUMPS AND AIR COMPRESSORS.

METAL WORKING

MACHINE TOOLS, PRESSES, LATHES, PLANERS, MILLING MACHINERY, Etc.

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Long-Distance Bell Telephone: Market 0727
Cable Address: O'Brien, Philadelphia

EQUIPMENT FOR SALE

- 3-150 H.P. H.R.T. Boilers, 100 lbs. pressure, each \$900.00
- 1-125 H.P. Side-crank Engine, Houston, Stanwood & Gamble\$650.00
- 2-Hand-power Traveling Cranes, 24' and 29' span 5-ton capacity each.....\$700.00
- 1-44" gauge, direct connected "Dinkey" about 8-ton Locomotive, just overhauled.....\$1,500.00
- 1-25 H.P. DCDD "Byers" Hoisting Engine with boiler in good order.....\$1,200.00 or without boiler.....\$900.00
- 1-16 H.P. D.C.S.D. "Byers" hoisting engine with boiler in good order.....\$650.00

SOUTH SIDE FOUNDRY & MACHINE WORKS

Charleston, W. Va.

A. C. MOTORS

Immediate Delivery. Large Stock,
Three Phase and Single Phase, Sizes 1/4 to 50 H. P
Send us Your Inquiries Before You Buy

SEEGER MACHINE TOOL COMPANY
Machinery and Supplies

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**Generators & Motor Generator Sets
Steam Engine and Turbine Sets**
(We buy and sell good used equipment)

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1118-1120 Clinton Street Hoboken, N. J.

**RETURN TUBULAR
LOCOMOTIVE**

BOILERS

**WATER TUBE
SCOTCH MARINE**

A LARGE STOCK OF HIGH-GRADE BOILERS OF PRACTICALLY ALL SIZES, TYPES AND MAKES, TAKEN OVER FROM DU PONT CHEMICAL COMPANY'S AND OTHER PLANTS WITH PRODUCTION RECORDS—RECONDITIONED, OFFERED SUBJECT TO ANY INSPECTION, AVAILABLE NOW!

"SAVE TIME AND MONEY ON YOUR POWER INSTALLATION—LET DAVIS FURNISH THE BOILERS"

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HARRIS TRUST BUILDING
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ELECTRIC HOIST AND DERRICK \$1600

PRICES F. O. B. CARS, HOG ISLAND, PA.

You Save at Least \$2000

These Hoists and Derricks are standard late models, manufactured by The American Hoist & Derrick Co., St. Paul, Minn. They are almost new, and every one is GUARANTEED to be in first-class running order.

The Hoists have two drums and swingers, and are complete with Starting and Control Equipment. Either side or bank control, and rated 6000 pounds single line on each hoisting drum. Slewing rope 36 ft. per minute, and hoisting rope speed 160 ft. per minute. The MOTORS are Otis 37 H.P. A.C., 60 cycle, 3 phase, 440 volt, slip-ring induction type and, if desired, may be changed to suit the individual current requirements of purchasers at cost.

DIMENSIONS OF DERRICKS

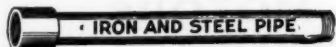
Mast..... 16 in. square, 40 ft. high.
Boom..... Made of (2) 14 in. sq. timber 48 ft. long spliced to lengths of 80 ft. with (2) $\frac{3}{4}$ in. and (2) $1\frac{1}{4}$ in. truss rods.
Stiff Legs. 14 in. sq., 55 and 60 ft long, or 16 in. sq. 50 ft. long, will furnish either length desired, capacity 5 to 10 tons. Bull wheel 16 ft. dia. Principal sheaves 16 in. dia. and 14 in. single blocks.
The Cable which was formerly used will be given with each purchase of a Hoist and Derrick.

These Hoists and Derricks are assembled on the Grounds at Hog Island and may be inspected at any time. This Equipment is being sold complete and in units of a Hoist or Derrick if desired. Immediate shipment can be made anywhere, but QUICK ACTION IS IMPERATIVE.

Wire, Phone or Write for Detailed Information, Folder, Etc.

THE ELECTRIC HOIST & DERRICK CO.

WAREHOUSE NO. 10, HOG ISLAND, PA.



Large quantity Pipe, with threads and couplings, used in Government plant a short time.

Rods—100 tons 7/8" Round Rods, 14' to 22' lengths.

Central Pipe & Supply Co.

Box 1099

CHARLESTON, W. VA.

FOR SALE

CAST IRON PIPE CLASS "C"

12" and 24" Flanged, faced and drilled.

Practically New.

Price \$30.00 Net ton F.O.B. Nitro, W. Va.

Also all sizes Steel Pipe.

LEBOW BROTHERS COMPANY

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PIPE FITTINGS

From the immense stock of surplus material at the Old Hickory Powder Plant.

This stock includes hundreds of staple valves, and fittings of all kinds, up to 3 inches. Also Flange fittings from 3 to 16 inch. New valves from Jenkins, Crane, Stockham and Walworth at greatly reduced prices.

Submit your requirements and we will save you money.

NASHVILLE

INDUSTRIAL CORPORATION

Jacksonville, Tennessee

ICE MACHINES

4—250 ton De La Vergne Ammonia Compressors, 18"x24", horizontal, double acting, direct connected to 370 H.P. Ames Una-flow Engine. Complete with all accessories.

Also brine coolers and brine pumps.

Complete Specifications on request.

NASHVILLE INDUSTRIAL CORPORATION

Plant Sites and Equipment
JACKSONVILLE - TENNESSEE

PIPE PIPE PIPE FOR SALE

15—Miles 8" 28 pound Line Pipe 49c. ft.
5—Miles 6" Line Pipe 34c. ft.
300,000 feet 1" Pipe 4c. ft.

All F. O. B. Beaumont, Texas

BROOKS SUPPLY COMPANY
Beaumont, Texas

HENRY A. KRIES & SONS CO.

Steam and Mill Supplies, Pipe Fittings, Complete Power Plant Equipment, Manufacturers and Machinists, Refrigerating Engineers and Contractors.

6 and 8 W. Lombard St., BALTIMORE, MD.

PIPE NEW PIPE

Owing to the present shortage of pipe we are pleased to advise that we have just purchased from the Government 1800 tons of Black and Galvanized new random length pipe from 2" to 12" which we can offer at attractive prices for immediate shipment.

To those who can use 3 1/2" Black or Galvanized Pipe please be advised that we can give a very substantial discount on same. Will ship plain end, flanged or screwed.

COMMONWEALTH PIPE & SUPPLY COMPANY

98-104 Merrimac St.
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If you wish to keep posted on the progress of the South, read the

Manufacturers Record

Exponent of America

Price \$6.50 a year Six months for \$3.50

Red and Buff Dry Pressed Brick,
Common Building Brick

GEORGIA-CAROLINA BRICK CO.

HOWARD H. STAFFORD, Pres.
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BLACK AND GALVANIZED STEEL PIPE

IMMEDIATE DELIVERY FROM STOCK

BLACK PIPE $\frac{1}{4}$ " to 20"

GALV. PIPE $\frac{1}{4}$ " to 8"

Cast Iron Bell and Spigot Fittings, Valves and Hydrants

Cast Iron, Malleable and Brass Screwed Fittings

Cast Iron and Steel Flanged Fittings and Valves

Brass Valves

Cast Iron and Forged Steel Flanges

Steam Specialties

25th & Morris Sts. **Chas. J. Grant Supply Co.** Philadelphia Pa.

FOR SALE

PIPE SECOND HAND All Sizes $\frac{1}{8}$ " to 24"

Furnished with new threads and couplings, suitable for every practical purpose.
Also large assortment of Contractors' Equipment, Hoisting Engines, Boilers, Concrete Mixers, etc.; all thoroughly overhauled.

MARINE METAL & SUPPLY CO.

167 South Street

NEW YORK

PIPE

ALL SIZES SECOND-HAND
FOR ALL PURPOSES

FRANK GRIFFITH

412-442 Moyer Street,

Philadelphia, Pa.

1-42" and 54" J. A. Fay Band Rip Saw. 1-54" Gilbert Band Resaw.
1-Glen Cove 8" 4-side Matcher. 1-Preble 19" 4-side Matcher.
1-J. B. Hort 14" 4-side Matcher. 1-24" 3-drum Berlin Sander.
1-30" 2-drum Fay. 1-26 x 12 Double Surfer, endless bed type.
1-48" Circular Resaw—power feed. 1-30" Circular Resaw—power feed.

MOULDERS

1-7" 3-side Houston. 1-7" 4-side Fay.
1-9" 4-side Williamsport. 1-7" 3-side Hamilton.
Boilers, Hoists, Pumps, Engines, Ironwork; Machinery, Belting, Shafting, Pulleys, Hangers.

THE CLEVELAND BELTING & MACHINERY CO.
1524 University Road CLEVELAND, OHIO

DRYERS CRUSHERS — GRINDERS — PULVERIZERS

For All Purposes

PLANTS DESIGNED AND EQUIPPED

W. P. HEINEKEN

Engineer and Manufacturer

95 Liberty Street

New York

A Real Opportunity

NEW STRUCTURAL STEEL—SLIGHTLY RUSTED—NOT PITTED

500 tons 6" 12 $\frac{1}{4}$ lb. I-Beams 15' 0" long

400 tons 5" 9 $\frac{3}{4}$ lb. I-Beams 9' 0" long

500 tons 4" 7 $\frac{1}{2}$ lb. I-Beams 12' 0" long

Exceptionally low price before removal.

Located New Cumberland, Pa.

HENRY A. HITNER'S SONS CO.

4501 Richmond St.

PHILADELPHIA, PA.

NEW AND SECOND-HAND

MACHINE TOOLS

HENRY PRENTISS & CO.

Incorporated

149 Broadway

New York, N. Y.

Warehouse: Jersey City

PIPE - VALVES - FITTINGS

Have just purchased from the Government the following Black and Galvanized Pipe (NEW).

17,000 ft. 1 $\frac{1}{2}$ "; 33,000 ft. 2"; 64,000 ft. 2 $\frac{1}{2}$ "; 49,000 ft. 3"; 85,000 ft. 3 $\frac{1}{2}$ "; 90,000 ft. 4"; 10,000 ft. 4 $\frac{1}{2}$ "; 11,000 ft. 5"; 12,000 ft. 6"; 19,000 ft. 7"; 20,000 ft. 8"; 5,000 ft. 9"; 10,000 ft. 10"; 12,000 ft. 12";

Can furnish random lengths or cut to sketch. Price low for immediate shipment.

WE ALSO HAVE 4,000 tons of Flanged and Screwed Fittings and Valves from $\frac{1}{4}$ " to 26", and invite your inquiries covering same.

HANOVER SALES COMPANY

P. O. Box 856

Philadelphia, Pa.

Pipe, all sizes, bought and sold. What sizes are you in the market for? What sizes have you for sale?

PIPE & CONTRACTORS' SUPPLY CO.

3 Dover Street

NEW YORK

FIFTEEN ANDERSON OIL EXPELLERS FOR SALE AT A BARGAIN

Latest type, used but a few weeks.

BURRUSS ENGINEERING CO.

Atlanta Trust Co. Bldg.,

Atlanta, Ga.

ELECTRICAL MACHINERY and EQUIPMENT

Motors and Generators
Desk and Ceiling Fans
Exhaust Fans and Blowers
Electrical Instruments
Circuit Breakers

Immediate shipments from stock

Factories' Branch

L.B. GOTTSCHALL & CO. DALLAS, TEXAS

MOTOR and STARTERS

1-75 H.P. CCL Westinghouse Motor, 25 cycles, 3 phase, 715 R.P.M. complete with base, pulley and no voltage release starter.

New Type E Westinghouse, 2 or 3 Phase no voltage release Starters, from 5 to 100 H.P. Volts 220-440-550.
At Attractive Prices.

ANDREW I. MEHAN COMPANY

119 N. Third St.

Philadelphia, Pa.

**USED EQUIPMENT FOR SALE
IMMEDIATE DELIVERY****PUMPS**

- 1—Erie Centrifugal 6 in. suction, 5 in. discharge, belt-driven Pump, size No. 5. In good condition, located at Spartanburg, S. C.
- 1—Marsh Sinking Pump, 4 in., size 10x6x16, No. 46507, good as new, f. o. b. Spartanburg, S. C.
- 1—Cameron Sinking Pump, size 8, No. 27330, 4 in. pipe. Good as new; f. o. b. Spartanburg, S. C.
- 1—No. 5 Emerson Steam Pump, good as new, f. o. b. Spartanburg, S. C.
- 1—No. 3 Emerson Steam Pump. Good as new, f. o. b. Spartanburg, S. C.
- 1—8 in. direct connected to steam engine, Morris Centrifugal Pump. Excellent condition, f. o. b. Spartanburg, S. C.
- 1—Warren Duplex Steam Pump, 10x8x10; in excellent running order. Located at Spartanburg, S. C.
- 2—Union Steam pumps S. C. 6x8x6.

STEAM ENGINES

- 1—20 H.P. Liddell & Tompkins Slide Valve Engine. In good running order. Located at Spartanburg, S. C.

BOILERS

- 1—40 H.P. Locomotive type Boiler, mounted on wheels, complete with stack and fittings, f. o. b. Spartanburg, S. C.
- 2—Upright boilers complete with fittings 16 H.P.

DUMP CARS

- 3—2 yd. Steel, Koppel Side-Dump Cars, located at Spartanburg, S. C. In good running order.
- 4—Mt. Vernon Flat Cars, 10 to 15 tons capacity. Located at Gaffney, S. C.

Also other equipment not listed

Willard, Boggs & Co.
Rex Theatre Bldg., SPARTANBURG, S. C.**FOR SALE**

- 1—100' Dry Kila with 13,000 ft. 1" pipe, track, leaders, gleadors and braces.
 - 1—Soule Flat Stack.
 - 1—Mogul type Locomotive.
 - 1—22x30 H & G side crank engine, with 12"x34" wheel.
 - 2—60x16 Boilers.
 - 1—60x18 Boiler.
 - 1—50x14 Boiler.
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 - 1—No. 94 Berlin 6x9 Matcher.
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- Also about 40 thousand acres cut-over land, good farming land; well water and healthy. Location ideal for colonization.

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with 6 in. by 8 ft. rolls. Belt driven. Good condition.

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Four 8"x10" Gould Fig. 1000, Triplex Pumps, 360 gallons, 160 lbs. pressure arranged for motor or belt drive. Used less than one month, excellent condition, specially priced.

One Hundred Other Pumps of Every Type.

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Established 1900**COMPLETE
MINERAL GRINDING EQUIPMENT
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3—42" Emery Mills, 2-Jaw Crushers, 3-Bolting Reels, 1-Sturtevant Roller Mill, 2-Steam Engines, 1-Boiler.

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40-lb. relaying steel rail, with angle splice bars.

Ready immediate shipment near Harrisburg, Pa.

Rail of other weights and switches in stock.

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PHILADELPHIA**FOR SALE OR RENT
Steam & Electric COMPRESSORS
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Hoisting Engines
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Motors, Generator, and Refrigerator Unit
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COMPLETE STOCK READY FOR IMMEDIATE DELIVERY

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- 1—Erie Type "A" 1/2 yd. steam shovel. Only used 90 days.
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- 1—Bucyrus 14-B steam shovel on Caterpillars. Rebuilt.
- 1—Browning 50-ton locomotive crane. New 1918. Used about two years.

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**SECOND-HAND MACHINERY
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Stacks—Tanks—Pipe, etc.

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- 1-Marion 72 Steam Shovel 3 yd. Dipper with extra long boom. New 1914. 90% New.
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- 1-13x18 American Saddle Tank 30 Ton Locomotive Machine completely rebuilt and in first-class condition. Boiler completely retubed, new tires, new flues, etc.

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Locomotives—Cars—Coaches
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REPAIR PARTS for CARS and LOCOMOTIVES

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- 2-Browning 4-wheel electrically operated.
- 2-Industrial 15-ton 8-wheel.
- 1-Industrial 7 1/2-ton 4-wheel.

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- 1-25-ton, 8-wheel Industrial Type H, built 1918, A.S.M.E. boiler, 50-ft. boom, double drums, thoroughly overhauled. Excellent condition.

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- 1-Austin Gasoline Road Roller, good as new.
- 1-Gallon Gravel Screening Plant, used only one season.

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- 1-1-yd. Hayward Class E. Orange Peel Bucket. Have 16 lb. and 20 lb. Portable track, Cars, Etc.

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36" Gauge Locomotives

Good engines—Ready for service

- 1-Vulcan 10x14" 14 ton four wheel saddle tank.
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Send for specifications and prices.

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- 1-14x24 Baldwin Saddle Tank Standard Gauge Locomotive.
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1 cu. yd. railroad type, boom-swing, in good condition, near New Bern, N. C. Price \$1,000.00

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MID-CONTINENT EQUIPMENT & MACHY. CO.
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Austin Caterpillar Crane, will use 3/4 yd. drag-line, clam-shell or orange-peel buckets. Just the thing for handling sand, gravel, coal, etc. Also suitable for small drainage work. Location, Parsons, Kans. Immediate delivery, first-class condition. Address

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Full revolving Road Cranes 7 ton capacity 3/4 yd. buckets

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- 1-Osgood No. 18 equipped with 30 ft. boom for clamshell work.

LOCOMOTIVE

American 6 wheel switcher, cylinders 18x24" drivers 44" wheel base 11' 6", weight 60 tons.

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- 1-Iroquois 1250 yd. Road Asphalt plant Complete.

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Shaft Sinking and other equipment, including Boilers, Steam Shovels, connected and geared Locomotives, Dump Cars, Grouting Machines, Rock Crushers, Screens, Compressors, Feed Pumps and etc. Specifications and prices quoted upon request.

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- Thew "27" 3/4 yd. "
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- Thew "O" 3/4 yd. " traction wheels
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Byers "Interlar" Traction, 40' boom, steam driven, 3/4 yard bucket.

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Parsons "K" will dig 26" to 48" wide and 11' deep, gasoline driven, half caterpillar.

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One—Marion 1-yard floating dredge, located in the Palm Beach Canal, four miles west of West Palm Beach on Okeechobee Road. One pontoon steel hull, 16' wide 74 feet long by 5 feet deep, consisting of eleven pontoons, six feet wide and one wooden pontoon 8 feet wide, all decked over with two inch planking. 40 foot boom, 12 foot swinging circle, 28 foot dipper handle, one-yard Manganese steel interlocking type bucket; boom, dipper stick, bucket and "A" frame all new. Locomotive type boiler, 50" in dia., 15' long with 64 2½ inch tubes and a 60"x48" fire box; 45 H.P. 8"x8" twin hoisting engine and double cylinder 5½"x8" horizontal swinging engine. Electric light plant, 3 kilowatt, 125 volts and 34 amperes, with switchboard, volt meter and rheostat.

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One—2-yard floating dredge, Marion, Hull 23'x85'x7'; 45' boom, 15' swinging circle, 2-yard dipper, 32' dipper handle. Marion locomotive type boiler, 50 H.P., 60" dia. x 17', with 104 2½" tubes. 60"x66" fire box, steam dome, 1 Gardner Iron Works 4½"x23¼"x4" duplex steam pump; 1 Worthington steam pump 5¼"x3½"x5"; 1 Worthington pump 3"x2"x3"; 1 Marion 8"x10" twin hoisting engine with Madison-Kipp power feed oil pump; 1 Marion 6"x8" double cylinder swinging engine with Madison-Kipp power feed oil pump; 1 Ajax 20 H.P. center crank slide valve throttling engine with 1¼" Gardner Governor; 1 Engbergs electric dynamo, 110 volts 3½ k.w.; 1 switchboard with volt meter and rheostat; 1 Channon No. 202 post drill for hand or power.

Price\$9000.00

One—3-yard dredge, Marion; Hull 39'x100'x8'; 1 22' swinging circle, 72' boom, 50' dipper stick, 3 yard dipper, forward spuds 30'x30'x46', aft spud 20'x20'x46'; 1 150 H.P. return tubular boiler with frame and settings manufactured by C. J. Walton Co., of Louisville, Ky.; 1 Worthington Steam pump; 1 Gardner steam pump 5¼"x3½"x5" duplex steam pump; 1 Marion steam pump 3¼"x3½"x5" duplex steam pump; 1 Marion 11"x12" double cylinder hoisting engine; 1 Marion 9"x10" double cylinder swinging engine; 1 Ajax 7"x10" horizontal center crank engine; 1 Fairbanks-Morse D.C. dynamo 3.5 k.w. 115 volts, 30.4 amperes; switchboard, volt meter, ammeter, circuit breaker and rheostat; 1 Golden Glow spotlight 110 volts, 250 watt; 1 Champion Blower Company No. 202 post drill press for hand and power.

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Four—Bucyrus Class-9½ steam operated dragline excavators with two caterpillars 3'x19' 3¼" long, structural steel base, 9½" dia. turntable; 1 National scale chamber locomotive type boiler, 50" dia. x10' long; 90-2" tubes 5' 5" long; 1 8"x8" double cylinder horizontal side crank link reversing type engine; 1 5"x5" double cylinder center crank valve reversing type swing engine; 1 double spur geared dragline drum 21" dia. 1" rope; 1 single spur geared hoist line drum—20¼" dia. 5½" rope; 1 45' steel boom with 1½ yard Page standard bucket; 1 frame housing with plank floor—D&M walls and roof. 1 Western Electric light plant with lamps and wiring.

Price of each\$18,000.00

One—Monighan Machine Company's type T walker excavator, equipped with 50 H.P. three cylinder Westman engine, spur geared dragline and hoisting drums, 45' steel boom, 1 one-yard Page bucket.

Price\$4000.00

Five—Bay City 1-yard walkers, equipped with 35 H.P. Charter oil burning engines, 1-yard dipper with 6" dia. handle, operated by friction clutches; 2" plank flooring, frame canopy covered by corrugated galvanized iron roof; span of 26' top width ditch. Center to center outside frames 32'. **Price of each\$2500.00**

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40 Standard and 38" Gauge Modern Direct-connected Locomotives, in all types and weights from 8 to 75 tons.
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3000 tons Relaying Rails, all sizes, on our Birmingham yards.
100 sets 35 and 40-lb. Frogs and Switches; good as new.

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CINCINNATI, OHIO

Manufacturers of Balkwill Articulated Cast Manganese Crossings

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Baldwin, Ten Wheel Type Locomotive,	50	tons,	Standard Gauge,
Baldwin, Ten Wheel Type Locomotive,	42	"	"
Rhode Island, Forney type	24	"	"
Porter Forney type,	17	"	"
Baldwin Forney type	9	"	"
American, Saddle tank,	20	"	"
Porter	18	"	36" Gauge,
Vulcan	18	"	"
Vulcan	14 1/2	tons,	"
Vulcan	10	"	"

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Marion Model 28, 5/8 yard dipper, Mounted Traction Wheels,
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O. & S. 10 tons capacity, Mounted four wheels standard gauge trucks, BUILT 1920, 35 ft. boom. Boiler—Double Riveted butt Strapped, 125 lbs. steam pressure. Double drums for bucket operation.

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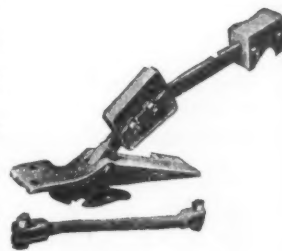
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Don't let him be driven crazy by derailments and tie-ups. It is easy to avoid them.

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300 flat cars, standard gauge, 36 to 40 ft. capacity 40,000, 50,000, 60,000 and 80,000 lbs.

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15 box cars, standard gauge, 36 ft., 50,000 lbs. capacity.

All equipped with air and hand brakes.

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One (1) second-hand Baldwin Locomotive. Total weight 65 Tons. Cylinders 20x24 inches. Overhauled and repaired to stand United States Government inspection. 165 lbs. per square inch steam boiler pressure.

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650 Tons 56-Lb. Rail
150 Tons 35-Lb. Rail

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RAILS

60-70-80-85 lb. relayers

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70-80-85 lb. frogs, switches, guard rails, stands, etc.

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Pavers, mixers, rollers, shovels, cranes, crushers, etc.

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A large stock of good relayers in weights from 30 lb. to 90 lb. per yard for shipment as quickly as cars are placed for loading. Can ship complete with necessary splice bars, angle bars, bolts and splices.

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Manufacturers Light Steel Rails

12, 14, 20, 25, 30, 35, 40, 45 lbs. per yd.

We are also dealers in Relaying Rails.

All Sizes

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RAILS IN STOCK

With Angle bars to match all sections.

Wire or write for prices.

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30,000 feet—90 lbs. per yard
22,500 feet—80 lbs. per yard
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With necessary angle bars.
Steam Shovels—Locomotives—Cars—Railway and Contractors Equipment.

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2—15-ton, 36" gauge Locomotives.
20—36" gauge Logging cars. Write or wire

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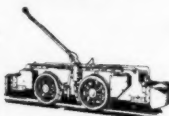
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WE BUY RAILS FIT TO RE-LAY
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New Frogs and Switches at low prices.



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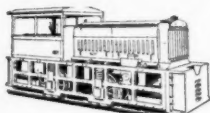
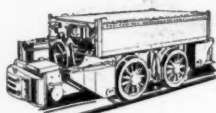


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Gasoline
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Write for Bulletins covering the Type you are interested in.

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"Rotators" come in several types and are run by compressed air or steam.

Bulletin 1270W gives details. The picture shows a Rotator digging rock for power house foundations in Arizona.

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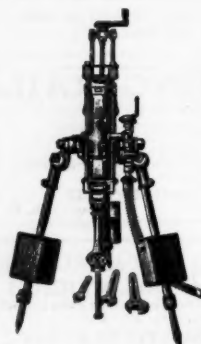
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A favorite for every purpose
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Send for Circular on the Wood "Brownie Drill"

A tripod drill made to be handled by one man. The lightest drill made. Weighs only 83 lbs. unmounted. Drills holes to 7 ft.

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Where rock is hard and delays are costly—

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It has established an enviable reputation for fast drilling, low upkeep cost, efficiency and durability.

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Ingersoll-Rand

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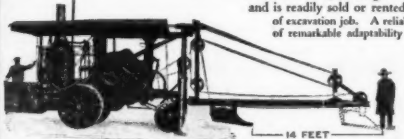
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—Skimmer, Ditcher and Clamshell— for Road Grading, Trenching, Back Filling, Cellar Digging, Pit Mining, Loading, Unloading and Handling Materials. Can be equipped with electric motor drive for use in buildings.

Saves first cost, moving cost and upkeep, and is readily sold or rented for any sort of excavation job. A reliable road shovel of remarkable adaptability to other uses.



Model 4
14 ton
All Steel
Excavator
with 1/2 yd.
Skimmer

Keystone Driller Company, Beaver Falls, Pa.

170 Broadway, New York, Monadnock Block, Chicago, Joplin, Mo.

ERIE Steam Shovels

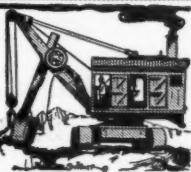
For road grading; handling road materials with clamshell bucket; cellar and trench excavation; excavating sand and gravel, etc. We will be glad to send photos and data showing just what the ERIE Shovel is doing on these classes of work.

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Builders of ERIE Shovels and Cranes

"Marions" Speed Up
Heavy Excavating
Work

The Marion Steam Shovel Co.
Marion, Ohio, U. S. A.



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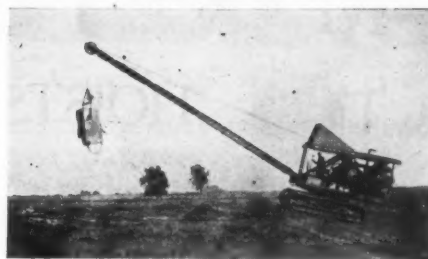
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TRACTOR WHEELS OR CRAWLER TRUCKS
GASOLINE ENGINE OR ELECTRIC MOTOR
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Walking, Track, Crawler
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DRAGLINE**

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The Rugged Construction of O. S. Dependable Cranes

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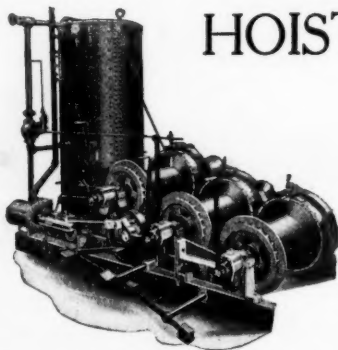
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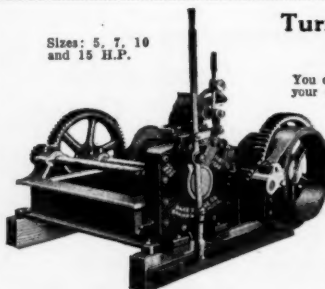


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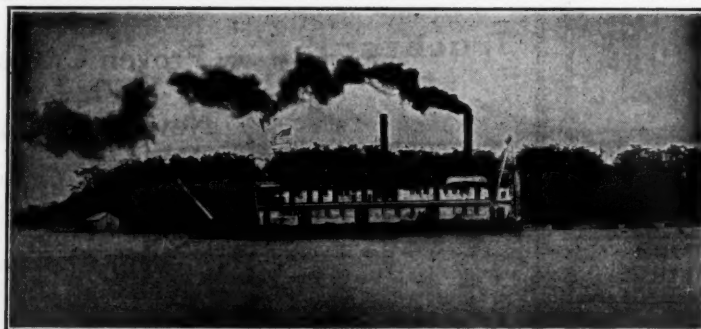
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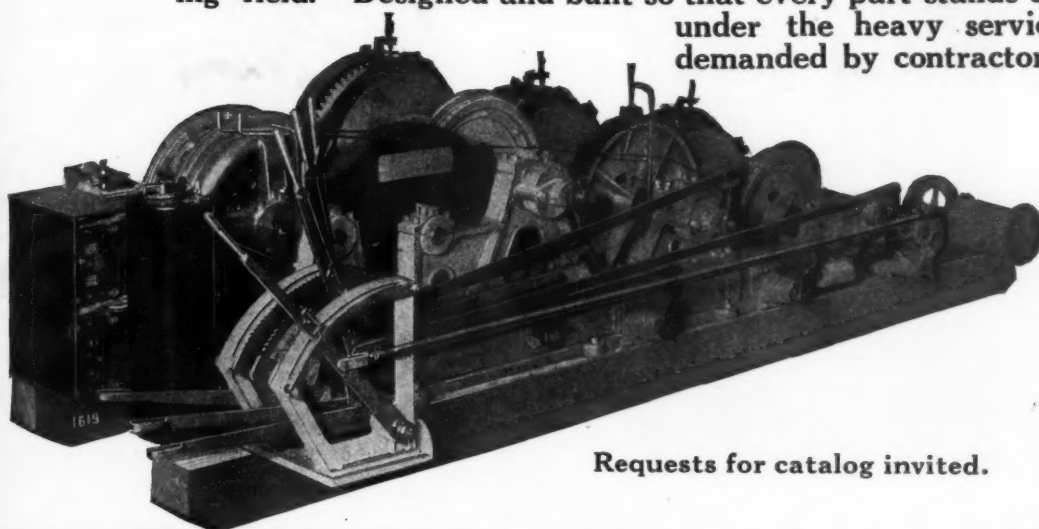
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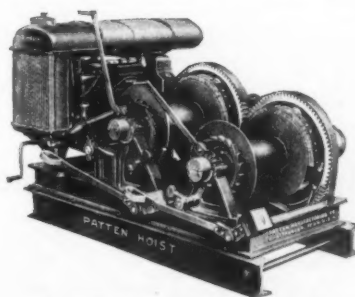
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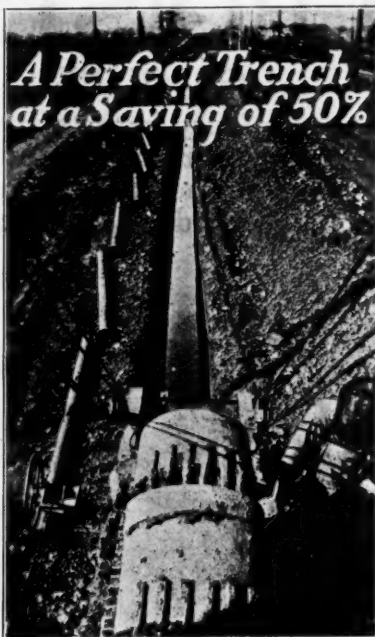
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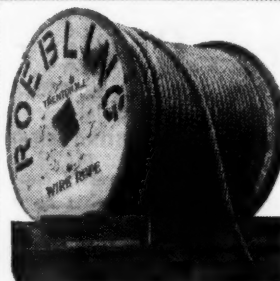
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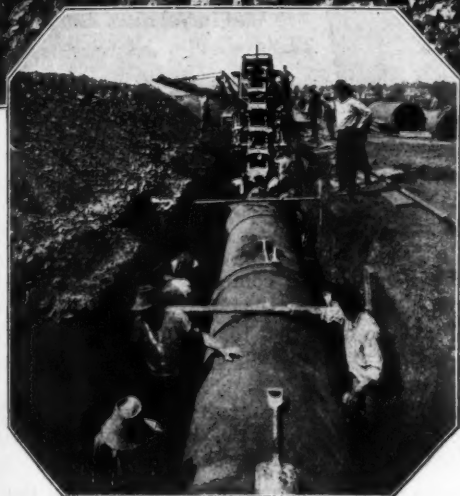
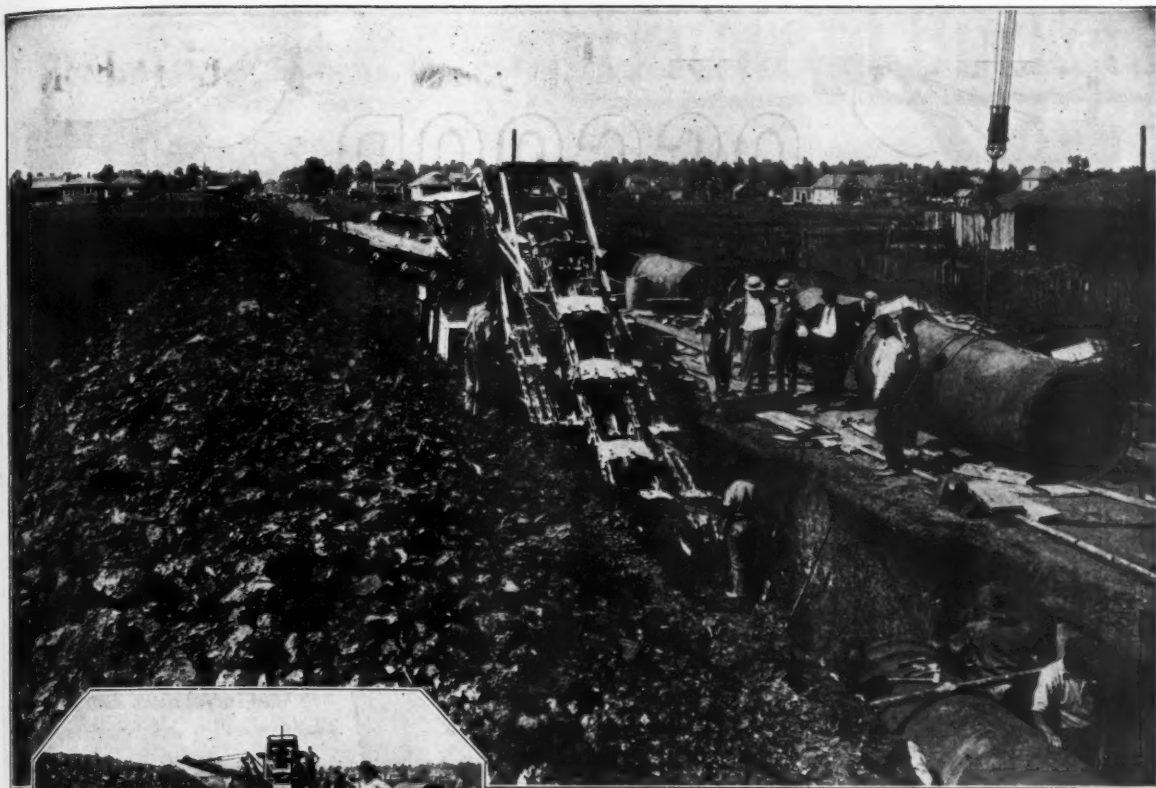
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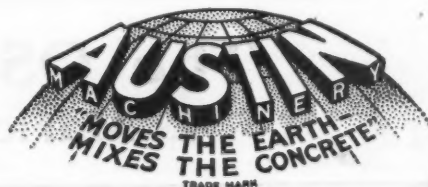
It goes without saying that an AUSTIN BACK-FILLER is following right behind, filling in the trench at minimum cost.

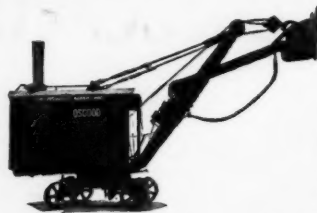
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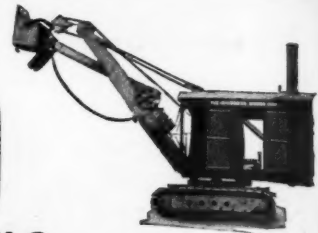
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OSGOOD

REVOLVING STEAM SHOVELS



SWINGING MECHANISM

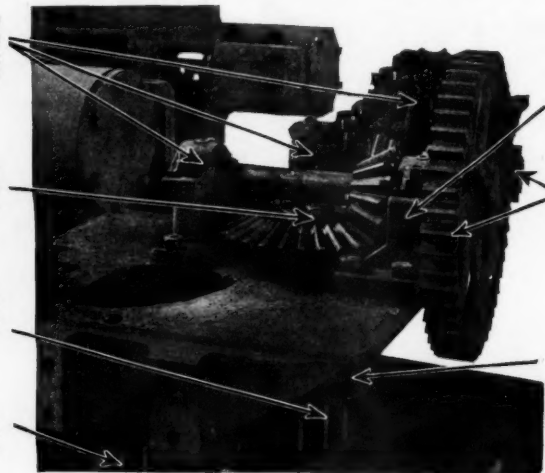
The Swinging Mechanism with all adjustments above deck

The swinging engine and the two bearings supporting the intermediate reduction shaft are bolted directly to the steel center casting.

Bevel gear with accurately cut teeth securely keyed to the extra large vertical swinging shaft.

Steel pinion and shaft are one-piece to eliminate the trouble and use of keys. Pinion has cut teeth.

Steel rotating gear of large diameter and machine cut teeth securely fastened to the cast steel truck frame.



This bearing bolted to both the center casting and to the swinging engine takes the thrust of the bevel and spur gears and insures proper teeth mesh.

Steel spur gear and pinion with cut teeth connect the swinging engine to the intermediate reduction shaft.

A solid bearing cast integral with the center casting supports the vertical swinging shaft. This bearing is bushed with removable bronze bushings.

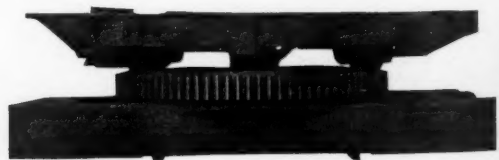
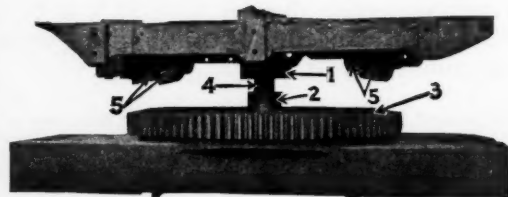
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The conical rollers (5) are of manganese steel which material is so hard that they can only be finished by grinding. They are bronze bushed and arranged for easy alignment in and out in case of wear and removable without jacking up the upper body.

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In one of the following illustrations the upper body has been raised to show the construction of this gudgeon and in the other the upper body is shown in its proper position on the roller path.

Cast integral with the upper body is a socket (1) which is bronze bushed to receive the hub (2) extending up from the roller path gear (3). The center shaft (4) is of large diameter with a hole through the center for a water pipe and runs in bearings bushed with bronze.



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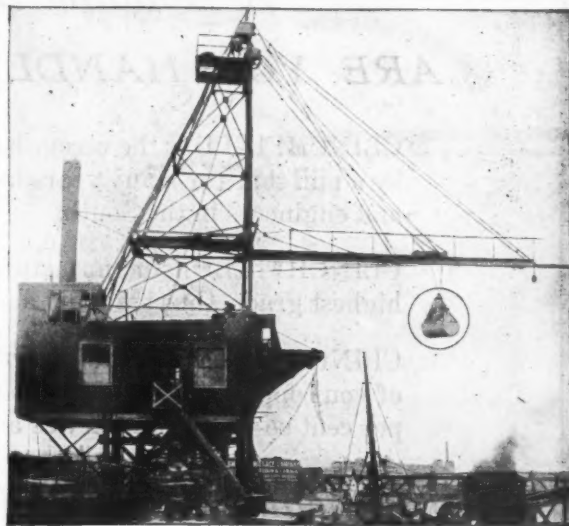
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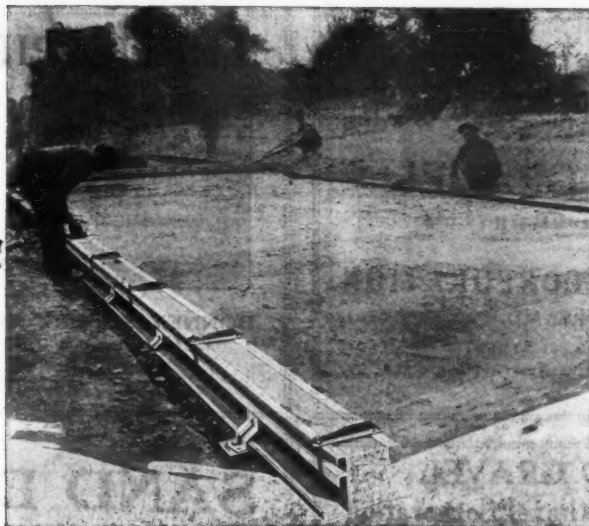
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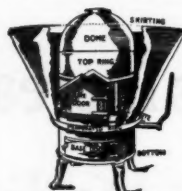
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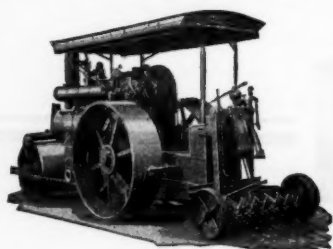
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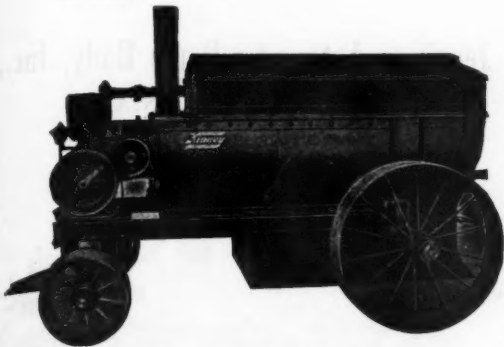
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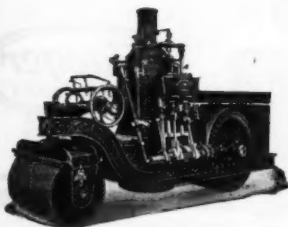
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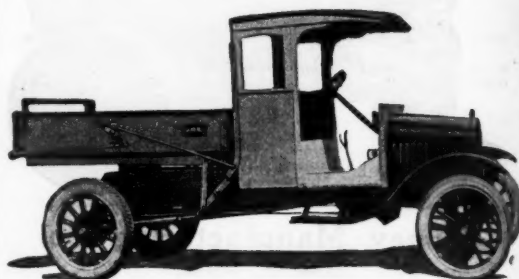
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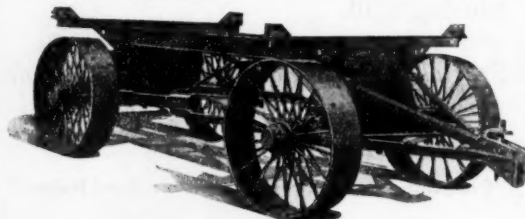
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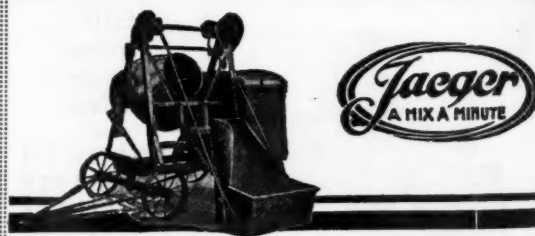
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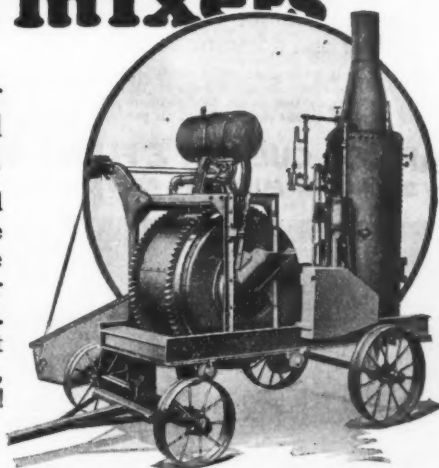
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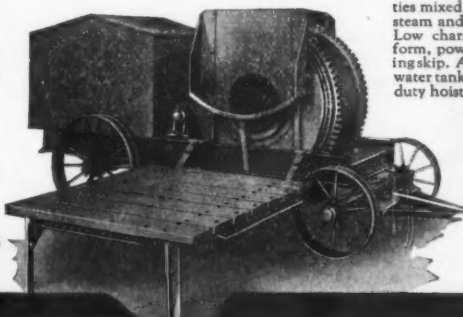
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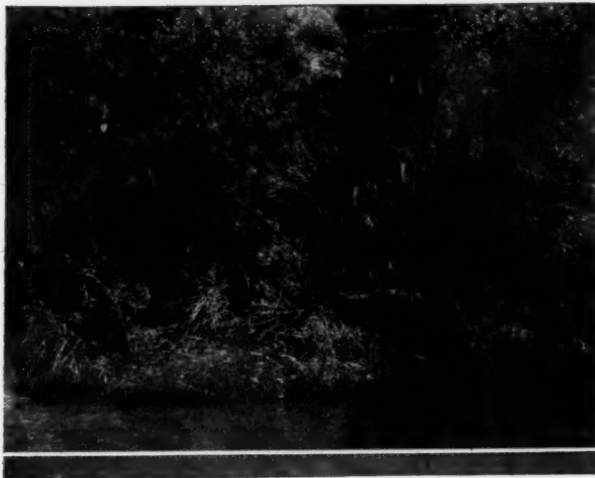
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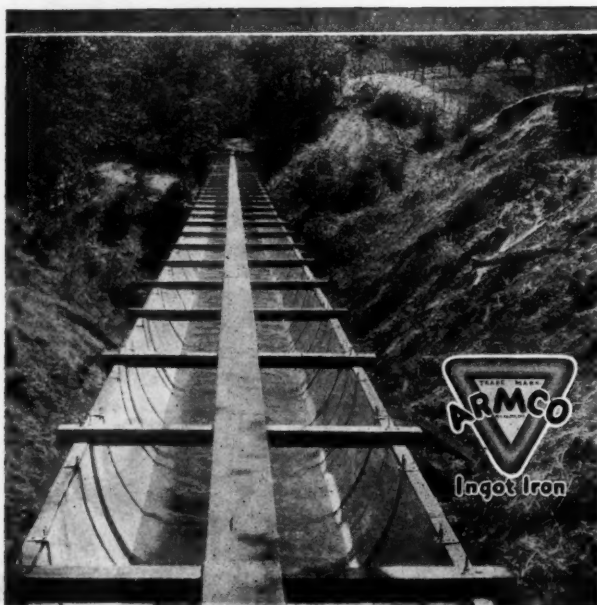
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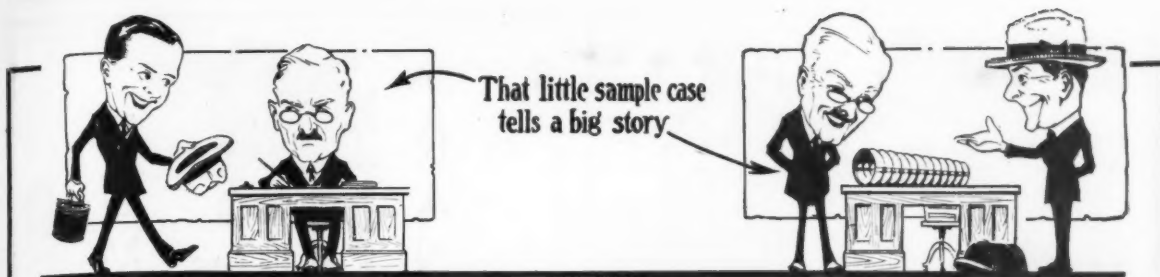
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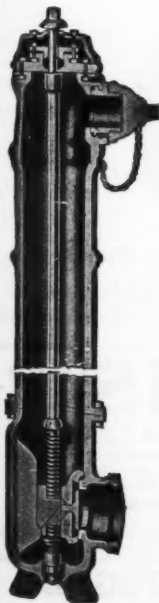
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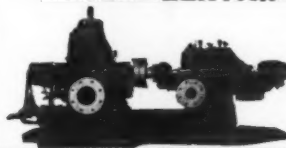
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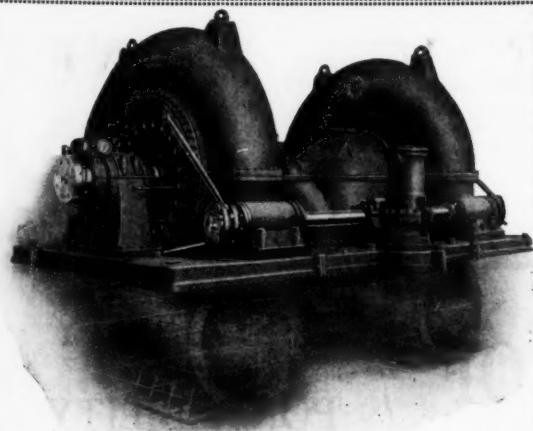
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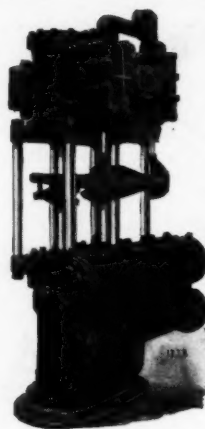
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Fig. 1238
12 x 8 x 12"

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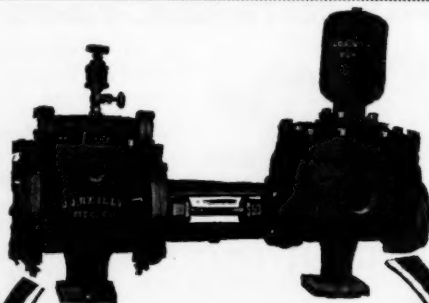
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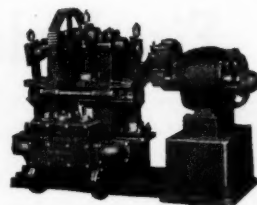
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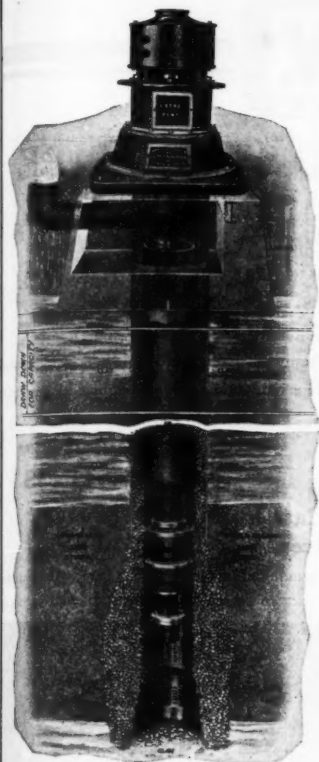
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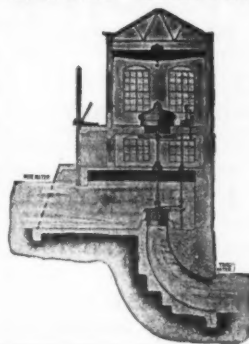
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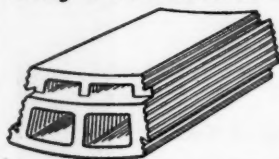
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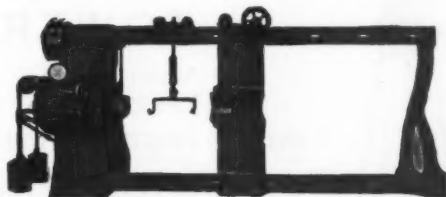
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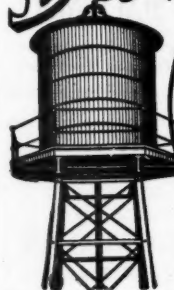
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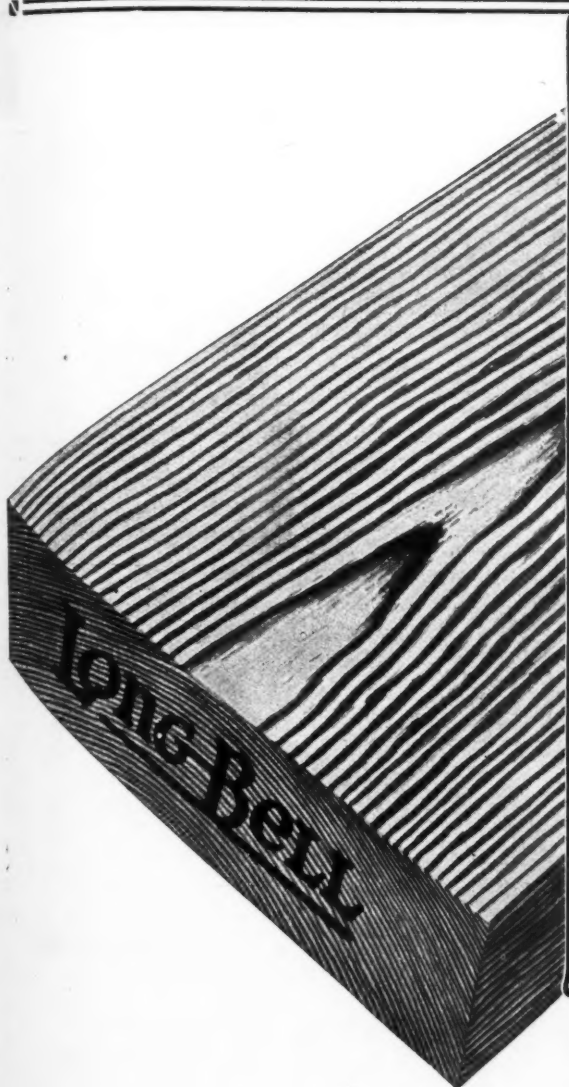
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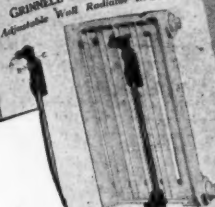
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